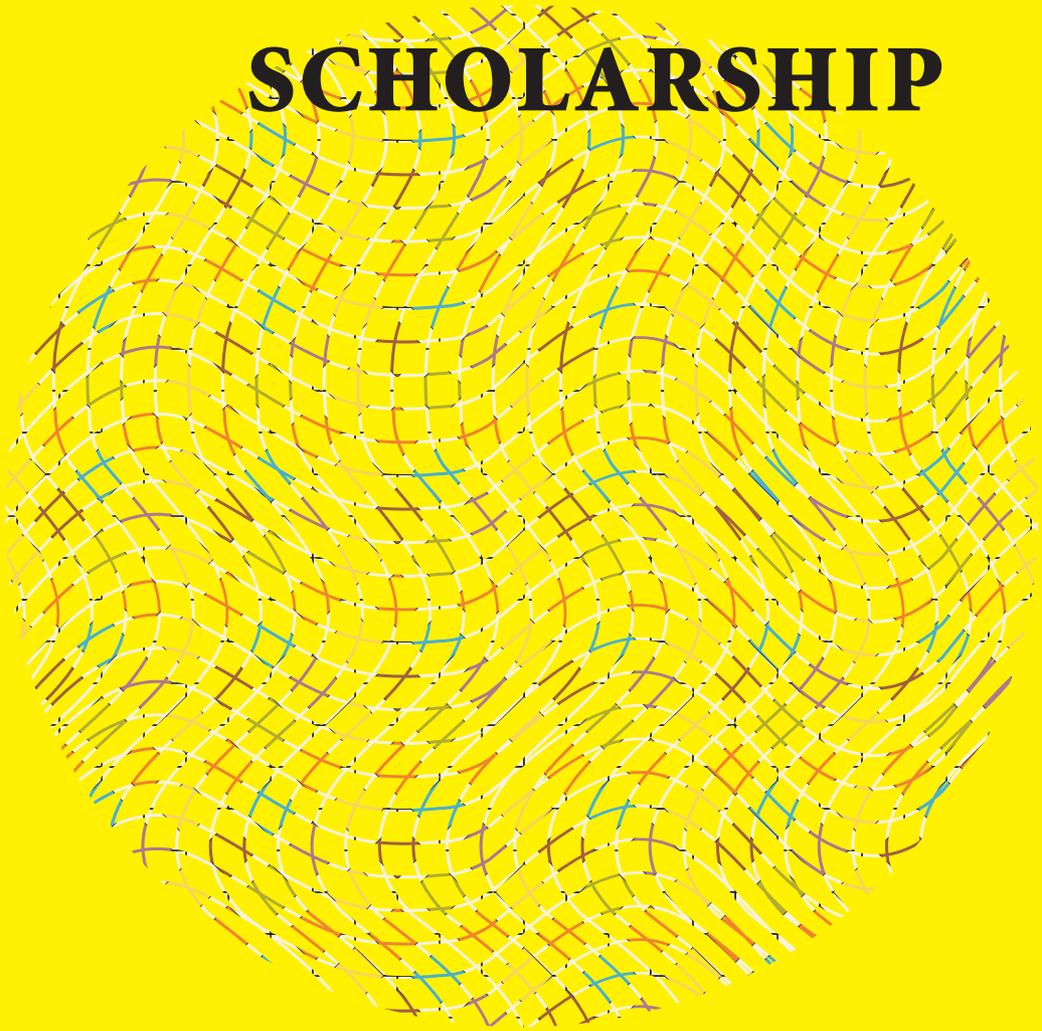


# **UNDERGRADUATE SCHOLARSHIP**



In the College of Arts and Sciences

Winthrop University

Book of Abstracts 2006



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“We have a hunger of the mind which asks for knowledge of all around us, and the more we gain, the more is our desire; the more we see, the more we are capable of seeing.”

— MARIA MITCHELL, ASTRONOMER (1818-1889)

APRIL 2006

The College of Arts and Sciences proudly presents our fourth issue of Undergraduate Scholarship in the College of Arts and Sciences: Book of Abstracts, which highlights the work conducted by students in collaboration with faculty mentors. This collection of abstracts represents many hours of scholarly activity in which students further developed their research, critical thinking, and writing skills and engaged in learning well beyond the classroom.

We congratulate all the students and their mentors for the quality of their work and their willingness to share it with the greater academic community through presentations at regional, national, and international meetings.

We thank Gary Caulder, who is majoring in mass communication, for editing the abstracts and Drew Heffron, who is majoring in visual communication design, for designing the book layout and creating its cover art.

Dr. Dwight Dimaculangan  
DIRECTOR OF UNDERGRADUATE RESEARCH  
COLLEGE OF ARTS AND SCIENCES

Dr. Debra C. Boyd  
DEAN  
COLLEGE OF ARTS AND SCIENCES



## **UNDERGRADUATE RESEARCH INITIATIVE**

College of Arts and Sciences

The Winthrop University Undergraduate Research Initiative (WUURI) in the College of Arts and Sciences supports a student-centered learning environment that fosters student research, scholarship, and creative activities. The Initiative encourages students and faculty mentors to collaborate in the design and implementation of projects and the dissemination of results.

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**UNDERGRADUATE RESEARCH ADVISORY COMMITTEE:**

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Merry Sleigh, PH.D. – Psychology

Jean Silagyi-Rebovich, PH.D. – Office of Assessment

Jane B. Smith, PH.D. – Director of the Writing Center

Kristi Westover, PH.D. – Biology



# HONORS THESIS ABSTRACTS

## *BETWEEN THE ORDERED & THE UNKNOWN: STRUCTURING HUMAN AGENCY*

John Cryderman, 2006  
HONORS THESIS COMMITTEE:  
Michael Lipscomb, PH.D.  
Department of Political Science  
Ed Haynes, PH.D.  
Department of History  
Jennifer Disney, PH.D.  
Department of Political Science

The problem of human agency is a haunting one. The Western assumption is that all individuals have the capacity to act; they have free will. While this may be true and while human agency may be part of the human condition, it is not unrestrained. The human subject finds itself trapped between the ordered civil structure it inhabits and the chaotic unknown of the outside, of nature, of that which cannot be ordered and classified. I will argue that human agency is a product of social organizations that have freed the human subject from naturalism while simultaneously constructing norms to limit the subjective capacity for action. To prove this, several case studies will be provided including a study on African Americans prior to 1964, India prior to independence, Arab intellectuals struggling against Imperialism, and the present American political situation.

## *THE FRIENDSHIP NINE & NATIONAL CIVIL RIGHTS ORGANIZATIONS: A CASE STUDY IN MUTUAL AID*

Presented to the South Carolina Historical Association, Columbia, SC, March 4, 2006  
Presented to the Southern Regional Honors Conference, Orlando, FL, April 7, 2006

Mark T. Evans, 2006  
HONORS THESIS COMMITTEE:  
Janet Hudson, PH.D.  
Department of History  
Steven Smith, PH.D.  
Department of Political Science  
Gloria Jones, PH.D.  
Department of English

Sit-ins, manifestations of the civil rights movement that first gained national attention in Greensboro, North Carolina on February 1, 1960, reached Rock Hill, South Carolina on February 12 of the same year. South Carolina, one of the South's most stringently segregated states, faced minimal organized resistance before the sit-in movement arrived in Rock Hill, and the initial demonstrations gained little attention outside of the city.

Eight students from Friendship Junior College and a CORE field secretary were charged with trespassing after participating in a sit-in late in the first

year of Rock Hill demonstrations. Unlike all participants before them, these protestors—the Friendship Nine—refused to pay the fine for their transgressions and were consequently sent to a prison farm for thirty days. The Student Nonviolent Coordinating Committee, upon hearing of this action, dispatched high-profile members to join the Friendship Nine in jail. The situation attracted media attention from across the nation, and the “jail, no bail” campaign quickly spread from Rock Hill throughout the Deep South. This paper examines the mutualistic nature of the relationship between grass roots activists and national civil rights organization in Rock Hill.

*THE ROLE OF THROMBOMODULIN  
IN PROSTATE CANCER  
PROGRESSION. J. HATHAWAY, W.  
T. WALKER, & L. GLASSCOCK.*

Presented at the Beta Beta Beta Biological Honor Society Southeastern Regional Meeting,  
March 2006 Presented at the National Council for Undergraduate Research, April 2006

Jonathan Hathaway, 2006  
& Winston Tyler Walker,  
Collaborator, 2006  
HONORS THESIS COMMITTEE:  
Laura Glasscock, PH.D.  
Lee Anne Cope, PH.D.  
James Johnston, PH.D.  
Department of Biology

This research focuses on the role of the anti-coagulant protein, thrombomodulin (TM), and its ligands in prostate cancer. TM on endothelial cells binds to the serine protease, thrombin (IIa), and the TM-IIa complex activates the serine protease, protein C (pC), into the anticoagulant serine protease, activated Protein C (APC). Men with prostate cancer have elevated levels of TM receptors on their prostate cancer cells (CaP) and in serum compared to men without prostate cancer. In addition to its role in coagulation, TM regulates the proliferation of CaP cells in vitro. Since TM is elevated in patients with CaP, regulates CaP cell proliferation, and is involved with pC, APC, and IIa in coagulation, we chose to study what effect these TM associated serine proteases have on the proliferation of PC-3, LNCaP and DU-145 CaP cell lines. We determined that as IIa concentrations increased (0-400 nm), the rate of proliferation of DU-145 and PC-3 cells first increased then showed a decreasing trend at high IIa concentrations. IIa decreased LNCaP proliferation. As both pC and APC concentrations increased, the proliferation of each cell line increased slightly. We concluded that the TM-IIa-pC-APC system regulates proliferation of PC3, DU-145, and LNCaP CaP cell lines.

# *THE COMPARISON OF CLEFT PALATE CLOSURE IN PEDIATRICS: SURGERY VERSUS PROSTHESIS*

Presented to the Southern Regional Honors Council, April 6, 2006

Emily Patterson, 2006  
HONORS THESIS COMMITTEE:  
Louis Rosso, PH.D.  
Anne Beard, PH.D.  
Department of Speech  
Darren Ritzer, PH.D.  
Department of Psychology

Many children are born with a hard palate that has not closed properly, known as a cleft palate. As a result of this breach in the tissue and bone, the nasal passage is exposed to the oral cavity which causes difficulties with eating, drinking, and speaking. Because of this life altering dilemma, many medical experts have developed surgical procedures as well as forms of prosthetic intervention in order to repair the problem of a cleft. However, there is great controversy over which procedure is most effective. Debate has not only emerged when discussing the method, but also with the scheduling of the procedure. Doctors are still deliberating over the appropriate age at which this cleft palate correction should occur. Therefore, the focus of my research is to investigate the suitable age for reconstruction in addition to the advantages and limitations of the surgical versus prosthetic approach to cleft palate closure.

# *THE EFFECTIVENESS & METHODS OF POPULATION CONTROL: A CASE STUDY OF CHINA*

Presented to the Political Science Department, Winthrop University, April 25, 2006

Christen James Rice, 2006  
HONORS THESIS COMMITTEE:  
Jennifer Leigh Disney, PH.D.  
Department of Political Science  
Melford Wilson, PH.D.  
Department of Political Science,  
Robert Stonebraker, PH.D.  
Department of Economics

My thesis begins with an examination of the assertion that “The best form of population control is economic development” (Dr. Karan Singh, 1st World Population Conference, 1974). If China is a “developing nation,” and, therefore, by definition, is lacking in economic development, then, China may have needed to impose other alternatives to address the issue of population control. In other words, the implementation of state regulations to control population may have been utilized because of the inability to rely on the changes that organically accompany modernization (industrialization, urbanization, etc.). After a discussion of several competing theories of population growth, my thesis examines: (1) why China instituted the One-Child Policy; and (2) the impact of that policy on the Chinese people. My research uses different theoretical lenses, including examining the political, economic, social, in-country management, world, and other

related issues. Finally, I include an overall assessment of the policy and of the economic development question about population control in general.

## *HUGO CHÁVEZ: AN ANALYSIS OF VENEZUELAN DEMOCRACY*

Presented to the Political Science Department, Winthrop University, April 25, 2006

Zachary Steven Naert, 2006

HONORS THESIS COMMITTEE:

Jennifer Leigh Disney, PH.D.

Department of Political Science;

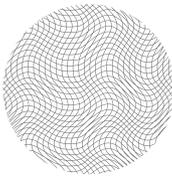
Timothy Boylan, PH.D.

Department of Political Science;

Virginia Williams, PH.D.

Department of History

From a failed coup attempt in 1992 to elected President in 1998, Hugo Rafael Chávez Frías has relentlessly promoted his expansive ideology for “socialism for the twenty-first century.” Despite Venezuela’s lengthy affinity for a democratic culture, Hugo Chávez may present a radical potential in the political ideology that he terms Bolivarianismo, though most would term Chávez’s brand of government as Chávismo. How, exactly, does a formerly imprisoned failed coup attempt leader become the democratically elected President of Venezuela? Chávez often cites Simón Bolívar for his political philosophy and even renamed Venezuela in the 1999 Constitution as the Bolivarian Republic of Venezuela. Chávez’s first six year term of office has already experienced two attempted coups to overthrow the Bolivarian Republic, an attempted economic coup by the Venezuelan elite, and a recall referendum in August of 2004. Moreover, many have highlighted Chávez’s close ties with the military, involving them in his humanitarian Plan Bolívar 2000 missions and filling high government positions with military affiliates. Several have focused attention on the 1999 Constitution created under Chávez’s supervision, and others have concerned themselves with the unparalleled concentration of power that Chávez has assumed. After an analysis of these concerns, as well as a detailed examination of various approaches to democracy, my thesis explores the extent to which Venezuela can currently be considered democratic.



## MEETING ABSTRACTS

### *EXAMINATION OF A SHORT PERSONAL FABLE SCALE. DAUGHERTY, T., WEBSTER, S., FRIPP, J., POSTON, K. & PRATT, T.*

Presented at the Annual Meeting of the Southeastern Psychological Association in Atlanta, GA, March 18, 2006

Sarah Webster, 2006  
Jessica Fripp, 2007  
Kyle Poston, 2006  
Tiffany Pratt, 2006  
FACULTY MENTOR:  
Tim Daugherty, Ph.D.  
Department of Psychology

The personal fable refers to a perception of one's self as unique, omnipotent, and invulnerable. These beliefs purportedly rise in early adolescence and may, for some, never be entirely overcome. The New Personal Fable Scale (NPFS; Lapsley et al, 1989) is a 46 item self-report test with three subscales reflecting the components of the PF construct. The authors of the current study sought to shorten the NPFS to 21 items and to examine the new scale's properties in a sample of college students. Gender and collegiate Greek status were predicted to influence perceptions of invulnerability. The shortened scale appeared to enjoy psychometric properties similar to the original measure (Greene et al, 1996). As expected, male gender and Collegiate Greek status were associated with higher self-perceived invulnerability. To the extent that reliability and factorial integrity are maintained, shorter tests may have greater utility. Future research will include thorough item analysis and produce alternative short forms of the NPFS.

### *GENDER DIFFERENCES IN FREQUENCY OF THOUGHT ABOUT PAST, PRESENT & FUTURE. ALLEN, S.K., TURRILL, J., RAWLINSON, C. & SLEIGH, M. J.*

Presented at the National Conference on Undergraduate Research, Asheville, NC, April, 2006

Previous research has demonstrated gender differences in depression, anxiety, and stress (Lewinsohn, Gotlib, Lewinsohn, Seelery & Allen, 1998; Nolen-Hoeksema, 2001; Wofford, Daly & Juban, 1999). The purpose of the current

Saradina K. Allen, 2006  
Jonathan Turrill, 2007  
Candice Rawlinson, 2006  
FACULTY MENTOR:  
Merry J. Sleight, PH.D.  
Department of Psychology

study was to examine whether gender differences exist in thoughts about the past, present, and future. This idea had not been previously explored in the literature. Participants were 44 young adults, with a mean age of 20.68 (SD = 3.60). Participants completed a 19-question survey, developed by the researchers, which measured frequency of different thought patterns, personality types, and self-esteem. Results revealed that women were more likely to agree that they “spend much time thinking about conversations and interactions from the past” than were men,  $t(42) = -2.38, p < .05$ . Women also reported worrying more about the past,  $t(42) = -3.02, p < .05$ . There were no gender differences in frequency of time spent thinking about the present or future. We also found no differences between Caucasians and African-Americans in temporal thought patterns. Type B participants did not differ from Type A participants in self-reported thought patterns; however, Type B participants were more likely to believe that men worry about the future more than women,  $t(42) = -2.30, p < .05$ . Results also revealed that the higher the grade point average, the less the participant worried about the past [ $r = -.33, p < .05$ ]. The higher the self-esteem, the less the participant worried about the past [ $r = -.42, p < .01$ ] and the more the participant spent time thinking about the future [ $r = .45, p < .01$ ]. The more a participant worried about the past in the last hour, the more negative the emotions were,  $r = -.43, p < .01$ . The more time a participant spent thinking about the future, the more they believed this thought pattern to be characteristic of men in general,  $r = .34, p < .05$ . These findings suggest that gender, self-esteem, and academic performance may influence the amount of time a young adult spends thinking about the past in comparison to the present or future.

## *THE EFFECT OF EXPERIENCE WITH SUICIDE ON ATTITUDES TOWARD SUICIDE. BAGWELL, M. N. & SLEIGH, M. J.*

Presented at the National Conference on Undergraduate Research, Asheville, NC, April, 2006

Mackenzie Nicole Bagwell, 2007  
FACULTY MENTOR:  
Merry J. Sleight, PH.D.  
Department of Psychology

Suicide rates are on the rise. Previous research has indicated that each suicide affects the lives of at least six other people, and the number of suicide survivors grows by 186,000 each year (Cox & Arrington, 2003). Maruši, Roškar, and Hughes (2004) found that experience with suicide of a family member may increase a person’s vulnerability to suicidal thoughts. The purpose of the current study was to further explore these ideas. Participants were 63 young adults, with a mean age of 19.62 (SD = 2.08). Participants completed a 22-question survey that measured prior experience with suicide, current attitudes toward suicide, and current suicidal ideation. Results revealed that there were no differences in suicide

ideation or attitudes between participants who had someone close to them commit suicide and participants who had not had this experience. The mean amount of time since the suicide was 40.69 (SD = 43.92) months. In contrast, participants who had experienced the suicide attempt of a close friend or family member were more likely to agree that they had considered ways to kill themselves than were those without this experience,  $t(61) = 2.10$ ,  $p < .05$ . The mean amount of time since the suicide attempt was 36 (SD = 22.23) months. The more often participants had suicidal thoughts, the more they agreed that they had considered specific ways to kill themselves,  $r = .84$ ,  $p < .01$ . The more participants believed that suicide was selfish, the more wrong they felt it was,  $r = .34$ ,  $p < .01$ . Women were more likely to agree that suicide is wrong than were men,  $t(61) = -2.34$ ,  $p < .05$ . In comparison to Caucasians, African-Americans were more likely to agree that suicide is wrong,  $t(59) = -2.76$ ,  $p < .01$  and were more likely to agree that suicide is selfish,  $t(59) = -2.36$ ,  $p < .05$ . Age and grade point average did not predict suicide ideation or attitudes. This findings support previous research by providing evidence that observing suicidal behavior in a close relationship may increase vulnerability to suicidal thoughts and behaviors.

*SYNTHESIS & ELECTROCHEMICAL  
PROPERTIES OF SURFACE MODIFIED  
LITHIUM MANGANESE OXIDE  
SPINELS. BAKER, K. & KULLBERG, L.*

Presented at the 231st American Chemical Society National Meeting,  
Atlanta, GA, March 26, 2006

Karl Baker, 2006  
FACULTY MENTOR:  
Lennart Kullberg, PH.D.  
Department of Chemistry,  
Physics, and Geology

The  $\text{LiMn}_2\text{O}_4$  spinel is one of the most promising cathode materials for lithium ion batteries because of its low cost, low toxicity, and high energy density. Recent studies have focused on the problem with capacity fading of this material upon repeated cycling. Methods such as partial substitution of manganese for other metal ions or coating the surface with a thin protective layer of an oxide, such as  $\text{ZrO}_2$ , have been shown to improve cycling stability. In the present study, we prepared  $\text{LiCoO}_2$  and  $\text{LiAlO}_2$  coated  $\text{LiMn}_2\text{O}_4$  spinels by sol-gel method and studied their electrochemical properties. The products were characterized by powder X-ray diffraction (XRD). The XRD data showed that the only phase present was the expected  $\text{LiMn}_2\text{O}_4$ . Electrochemical evaluation of the materials as cathodes in lithium ion cells was performed. The cells gave high discharge voltages ( $\sim 4.0\text{V}$ ) and relatively high discharge capacities. The  $\text{LiCoO}_2$  coated spinel gave a higher discharge capacity than the  $\text{LiAlO}_2$  coated material. The  $\text{LiCoO}_2$

coated material also showed good stability during repeated cycling with virtually no capacity loss during the first 50 cycles. A study of the effect of using higher amount of cobalt and aluminum in the spinel is in progress.

## *FEMALE MORAL AUTHORITY IN ADVENTURES OF HUCKLEBERRY FINN*

Presented at the Winthrop Literary Society and Department of English  
Graduate and Undergraduate Conference, April 1, 2006

Christina Baswell, 2006

FACULTY MENTOR:

John Bird, PH.D.

Department of English

In her article “Reformers and Young Maidens: Women and Virtue in Adventures of Huckleberry Finn,” Nancy Walker posits that the women in Mark Twain’s canonical work are the traditional Victorian “reformers” of men. My paper, however, argues that the premises leading up to this conclusion suggest a more powerful argument that Walker does not acknowledge. In essence, when Walker says, “As members of the gender responsible for upholding the moral and religious values of civilization, even when those values sanction slaveowning, the women make possible the lawlessness and violence of the men” (483), she is subtly implying that the women of Huck Finn have the power to determine what is moral and what is not; furthermore, if the women in Twain’s novel are indeed responsible for “upholding the moral and religious values of civilization,” then it follows that they are at least partially responsible for determining what those moral and religious values are. My paper expounds upon this key point that Walker suggests but fails to develop, arguing that the women of Huck Finn possess a tremendous amount of moral authority that is evident from Huck’s interactions with female reformers like the widow Douglass, Miss Watson, Aunt Sally, and Judith Loftus. Huck’s inability to lie successfully to women and his desire to escape from women’s “civilizing” attest to Huck’s recognition, albeit on an unconscious level, of the moral authority of the women he encounters throughout his journey.

*THE RELATIONSHIP BETWEEN  
RELIGIOSITY & SUICIDE ATTITUDES  
IN YOUNG ADULTS. BRISBON, T. R.,  
CUMMINGS, D. & SLEIGH, M. J.*

Presented at the Southeastern Psychological Association conference, Atlanta, GA and at the National Conference on Undergraduate Research, Asheville, NC, April, 2006

Trekeelia Brisbon, 2007  
Dameshia Cummings, 2007  
FACULTY MENTOR:  
Merry J. Sleigh, PH.D.  
Department of Psychology

The growing prevalence of suicide has made the scientific study of suicidal behavior a focal point of public health (Burless & DeLeo, 2001). The purpose of the current study was to examine individual levels of religiosity and suicide attitudes in young adults. Ninety-two young adults responded to a 28-question survey. The survey utilized Eskin's (2003) suicide survey and included questions created from Elliot, Kilpatrick and McCullough's (1999) research on religious beliefs and practices. Participants responded to questions about religious behavior and suicide attitudes on a Likert scale. We computed a 'religion score' and a 'suicide score' for each participant with higher scores indicating greater reliance on religion or a more positive attitude toward suicide. Results revealed that the higher the religion score, the lower the suicide score,  $r = -.59, p < .01$ . The more participants agreed that there is life after death, the more negative their attitudes toward suicide were,  $r = .41, p < .01$ . We also found that African-American participants reported a higher religion score [ $t(80) = 2.4, p < .05$ ] and a lower suicide score [ $t(82) = -2.94, p < .01$ ] than Caucasians. However, Caucasians were more likely to agree that suicide is sinful [ $t(84) = -2.30, p < .05$ ] and would be punished in the after life [ $t(85) = -3.31, p < .01$ ]. There were no gender differences in religion or suicide scores; however women were more likely to agree that religion was important in their lives [ $t(89) = -2.64, p < .05$ ] and that those who commit suicide will be punished in the after life [ $t(89) = -2.63, p < .05$ ]. Age did not predict general attitudes about religion or suicide; however, the older the participant, the more likely the participant was to believe that suicide for the terminally ill was acceptable,  $r = .21, p < .05$ . Caucasians were also more likely than African-Americans to support suicide for the terminally ill,  $t(85) = -2.41, p < .05$ .

*CHARACTERIZATION OF THE  
ONCOGENIC PROPERTIES OF DELETION  
MUTANTS OF THE HIGH MOBILITY  
GROUP A PROTEINS. BURTON, J. C. \*,  
EVANS, V. §, PACE K. \* & SUMTER, T. F. §*

Presented at the 231ST American Chemical Society meeting in Atlanta, GA,  
March 28, 2006 & Presented by Julie Burton at the Southeastern Conference  
of Beta Beta Beta in Gatlinburg, Tennessee on March 31, 2006.

Julie C. Burton, 2006

Veda Evans, 2007

Kelly Pace, 2008

FACULTY:

Takita F. Sumter, PH.D.

Department of Chemistry,

Physics and Geology §

& Department of Biology\*

The high mobility group A (HMGA) proteins are a family of proteins involved in transcriptional regulation, retroviral integration, and cancer initiation. The family members, HMGA1a, HMGA1b, and HMGA2, are all aberrantly expressed in cancers and have well established oncogenic properties. However, the precise mechanisms involved in HMGA-mediated transformation are unclear. HMGA proteins possess three characteristic AT hook motifs and an acidic carboxyl-terminal tail. Previous studies on the role of these motifs in transcription show that the AT hook motifs act cooperatively to facilitate binding of HMGA proteins to their DNA targets while the acidic C-terminal tail portends binding specificity. To understand how specific regions of HMGA contribute to transformation, we deleted the characteristic regions of the protein in the construction of three mutants: HMGA1a 1-54 which deleted the second and third AT hook, HMGA1a 1-64 which deleted the third AT hook, and HMGA1a 1-90 which deleted the C-terminus. Mutants were transfected into fibroblast cells and transformation assays were conducted. These studies will contribute to our current understanding of the role of these proteins in cancer.

# *YOUNG ADULTS' ATTITUDES TOWARD ARRANGED VERSUS CHOICE MARRIAGES. CHEEMA, S. & SLEIGH, M. J.*

Presented at the National Conference on Undergraduate Research, Asheville, NC, April 2006

Sheena Cheema, 2007  
FACULTY MENTOR:  
Merry J. Sleigh, PH.D.  
Department of Psychology

Previous research has demonstrated that couples in choice marriages may be more satisfied than couples in arranged marriages (Hortascu & Oral, 1994; Yelsma & Athappilly, 1988). However, couples in arranged marriages have more loyalty and love than couples in choice marriages (Myers, Madathil, & Tingle, 2005). The purpose of the current study was to examine young adults' attitudes toward arranged marriages versus choice marriages. Participants were 86 young adults with a mean age of 21.0 (SD = 4.62). Participants completed a 42-question survey; they responded to statements on the survey by indicating their level of agreement. We computed a 'Preference for Arranged Marriages' (PAM) score. The possible range was 11 to 55, with a higher score indicating a more positive attitude toward arranged marriages. The mean score for all participants was 22.74 (SD = 4.70). The higher the PAM score, the more important the participants rated the education level of their partner [ $r = .23, p < .05$ ], the economic status of their partner [ $r = .49, p < .01$ ], and the race of their partner [ $r = .37, p < .01$ ]. Participants with a higher PAM score also reported a lower willingness to divorce [ $r = .28, p < .01$ ] and a stronger belief that it is important to their family that they marry [ $r = .21, p < .05$ ]. The more religious participants were, the more important they felt it was for their partner to be religious,  $r = .60, p < .01$ . Women were more likely than men to agree that the education level of their partner was important [ $t(84) = -2.45, p < .05$ ]. Women were more likely to agree that the religion of their partner was important [ $t(84) = -2.38, p < .05$ ], and they were more religious,  $t(80) = -2.01, p < .05$ . In addition, women were more likely to agree that they expect their family to be involved in planning their wedding,  $t(84) = -3.49, p < .05$ . These findings suggest that young adults have a more favorable attitude toward choice marriages while still reporting relatively positive attitudes toward arranged marriages.

# *THE LAST WORDS OF JESUS*

Presented at the National Conference on Undergraduate Research, Asheville, NC, April 8, 2006

Caitlin Cihak, 2007  
FACULTY MENTOR:  
Peter Judge, PH.D.  
Department of Philosophy  
and Religious Studies

The object of this paper is to analyze the different accounts of Jesus' dying words given in each of the four Gospels and to determine how these various descriptions reflect the Gospel writers' understanding of Jesus. Mark presents a dying Jesus who feels utterly abandoned by God and woefully cries out with the words of Psalm 22:1. Scholars debate, however, whether or not this Psalm verse should be taken as a stand-alone utterance or as a reference to the content of the entire Psalm. We carefully examine this debate and determine that a complete rejection of the notion of abandonment would be to disregard the Gospel writer's purpose. Matthew's account is strikingly similar to Mark with some notable differences. For example, Matthew changes Mark's Aramaic *eli* to the Hebrew *li* despite the fact that the remaining words are in Aramaic, most likely to give clarity to the bystanders' remark that Jesus was calling for Elijah. For the rest, Matthew remains close to Mark. Luke's version, on the other hand, is quite different from Mark and Matthew's. Rather than presenting Jesus as feeling forsaken by God, Luke presents a Jesus who is confident and faithful to God's plan even in death. Lastly, the Johannine account is perhaps the most unique of the four Gospels. Jesus' death in John further emphasizes the theme of completing God's work that is prevalent throughout his entire Gospel. Jesus' death is, in fact, the pinnacle of John's message, and Jesus' last words reflect this. It is important to note that while it is easy to get caught up in Jesus' words and to wonder which account is historical, perhaps more important is to fully understand the Gospel writers' intentions in presenting their accounts as theological.

## *SPECTROSCOPIC INVESTIGATION OF FOLDING IN AMYLOID-(11-22): EFFECTS OF ZINC BINDING & CHELATION. DANIEL, S., PARKER, C. L. & LAMMI, R. K.*

Presented at the 231st Annual Meeting of the American  
Chemical Society, Atlanta, GA, March 27, 2006

Binding of Zn<sup>2+</sup> is known to cause aggregation of soluble amyloid-peptide (A) and is a likely first step toward formation of senile plaques

Shakena Daniel, 2006

FACULTY MENTOR:

Robin Lammi, PH.D.

Department of Chemistry,

Physics and Geology

in Alzheimer's disease. Investigation of metal-induced conformational change in soluble, monomeric A should therefore help to elucidate the earliest events in the plaque-formation cascade. We have studied folding of DABCYL-A(11-22)-EDANS, a dually dye-labeled peptide containing the KLVFF sequence important for A-A association. Fluorescence resonance energy transfer (FRET) experiments in dilute solution at pH 7.4 give an average N- to C-terminal distance,  $r$ , of 24 Å; following addition of one equivalent of Zn<sup>2+</sup>,  $r$  decreases to 21 Å without dimer or aggregate formation. Molecular mechanics calculations give similar distances (25 and 20 Å, respectively) and suggest that the free peptide adopts an extended conformation with Zn<sup>2+</sup>-induced folding near the N-terminus resulting from coordination to His-13, His-14 and Glu-11. Addition of the Zn<sup>2+</sup>-chelator clioquinol partially reverses these effects.

## *LONGITUDINAL & CONCURRENT PREDICTORS OF CHILDREN'S SOCIAL COMPETENCY, ETHNIC IDENTITY & BEHAVIOR*

Presented at the 19th Biennial Meeting International Society for the Study of Behavioral Development, Melbourne, Australia, July 2-6, 2006

Casserly Daniels, 2008

Kathleen Jocoy, 2008

FACULTY MENTOR:

Cheryl Fortner-Wood, PH.D.

Department of Psychology

Diversity, according to Webster, refers to the presence in one population of a wide variety of cultures, opinions, and ethnic groups. Of the research performed on diversity's effect on social behavior, the overriding suggestion is that exposure to diverse groups promotes positive outcomes. For example, Tam & Bassett (2004) found that students from high schools with higher levels of diversity earn a first semester college GPA that is .25 to .50 higher than students from less diverse high schools even after controlling for ACT, high school rank, and high school quality. Such evidence encourages exploration of the impact of diversity on younger psyches. Secondary analyses of the longitudinal data from the National Institute of Child Health and Human Development (NICHD) and the Study of Early Child Care and Youth Development (SECCYD) were conducted to examine early and concurrent factors that influence children's social and behavioral outcomes in first grade. The social and behavioral development indicators considered in this study are competency with peers, social skills, ethnic identity, and internalizing and externalizing behaviors. We expected those outcomes would be influenced by early factors such as child's sex and ethnicity, maternal education at one month as well as child and family characteristics in the first grade (e.g. playmate's

sex and ethnicity, family income). Not surprisingly, preliminary analyses yielded a significant relationship between child and playmate ethnicity in the first grade data. Given the literature on gender segregation at this age, main and interaction effects of child and playmate gender on social and behavioral outcomes were also explored. A child's race x child's sex x 1st grade playmate's race x playmate's sex MANCOVA revealed only one main effect (child's race) on a composite of ethnic identity variables even when family's income-to-needs ratio was controlled. Likewise, child race explained mean differences in all but one of seven social skills subscales. These findings regarding effects of children's relationships with individuals different from themselves are explored in greater depth and discussed.

*THE IMPACT OF STUDY AIDS  
ON STUDENT PERCEPTIONS,  
PERFORMANCE EXPECTATIONS  
& AFFECT: AN EXPERIMENTAL  
COMPARISON. WEBSTER  
NELSON, D. & DAVENPORT, S.*

Presented at the National Institute on the Teaching of Psychology, January 2005

Stephanie Davenport, 2006  
FACULTY MENTOR:  
Donna Webster Nelson, PH.D.  
Department of Psychology

The usefulness of various pedagogical aids has been explored by recent research and findings suggest that many are not highly valued by students (Marek, Griggs & Christopher, 1999). For example, Balch (2001) found that students perceive study guide quizzes as relatively unhelpful. One possible explanation for this finding is that study guide quizzes may not provide an accurate reflection of course emphasis and content. If this is true, faculty may be better advised to develop their own practice quizzes. Another consideration that may affect student perceptions is the mode of presentation. Students may find an independent review of practice items to be relatively unhelpful and a professor-led review more helpful. This study examined three pedagogical techniques designed to prepare students for an exam. Students were randomly assigned to one of three conditions. In the first condition, students were presented with a pre-packaged textbook study guide quiz. In the second condition, students were presented with a professor-written quiz that was delivered via WebCt. In the final condition, the professor-written quiz was presented in a face-to-face session with the professor. All conditions provided feedback regarding correct and incorrect answers, and students gave their reactions to the session. Results

indicate that students perceived the professor-led session to be of greatest utility, the WebCt session to be of intermediate helpfulness and the study-guide session to be relatively less helpful. Performance expectations and active involvement were greater for students in the professor-led and WebCt sessions compared to the study-guide session. Furthermore, students in the professor-led session were more likely to report feeling inspired, enlightened, hopeful and confident compared to the other two conditions. Findings suggest that a professor-led review session may be students' preferred mode of reviewing practice items. However, an alternative method that involves professor-generated quiz items and feedback delivered via WebCt may be a viable alternative that provides accessible help and is preferable to traditional, prepackaged study guide quizzes.

*MEASURING COLLEGE STUDENTS'  
TIME MANAGEMENT SKILLS WITH  
AN IN-BASKET TASK. DAVENPORT,  
S.A., GRANDE, R.N., BYRD, P.B.,  
NOË, B. & RITZER, D.R.*

Presented at the National Conference for Undergraduate Research, Asheville, NC, April 2006

Stephanie Davenport, 2006

FACULTY MENTOR:

Darren Ritzer, PH.D.

Department of Psychology

One way to measure organization and planning is with an "in-basket" test (e.g., Meyer, 1970; Rolland, 1999; Tett, et. al. 2003). An in-basket test is a situational test which consists of letters, memos, phone messages, and other materials which have supposedly collected in an in-basket (Frederiksen, 1962). Participants have a limited time to organize the contents of the in-basket and present a coherent plan for the coming week. The primary focus of this study was to create an original college student-based, in-basket test and then compare students who have different levels of obligations. We hypothesized that students who spent at least ten hours working or doing extracurricular activities, and, thus had more experience planning a busy schedule, would score higher on the in-basket test. The in-basket task was composed of 39 memos that participants had to organize, prioritize, and use to schedule a hypothetical week. The memos contained dates and times for activities and appointments relevant to college students. To make planning and organizing more challenging, certain memos were more critical than others, there were conflicting times and dates, and some early tasks were cancelled by later memos. Fifty-two participants were given 15 minutes to organize the in-basket information and fill out a hypothetical schedule for the week. Participants' schedules were scored relative to an "ideal"

schedule. Our hypothesis was not supported. Participants who spent at least ten hours outside of the classroom with various obligations averaged about the same score on the in-basket task as those participants who did not. However, when comparing students with jobs to students without jobs, the results approached significance. Although not statistically significant, students without jobs scored higher compared to those students with jobs. The mean scores were 59.4 for people with jobs and 68.6 for people without jobs. Although the main hypothesis in this study was not supported, the results suggest that there is a potential difference between students who hold jobs during the school year compared to those who do not. Future research should focus on this issue of “work-school conflict” and should utilize this in-basket methodology to measure time management.

*UNDERGRADUATES' PERCEPTIONS  
OF GRADUATE TEACHING  
ASSISTANTS. DAVENPORT, S.A.,  
SLEIGH, M. J. & RITZER, D. R.*

Presented at the National Institute on the Teaching of Psychology Conference, Coral Gables, FL  
& Presented at the National Conference on Undergraduate Research, Asheville, NC, April 2006

Stephanie Davenport, 2006  
FACULTY MENTOR:  
Merry J. Sleigh, PH.D  
Darren R. Ritzer, PH.D  
Department of Psychology

The use of graduate teaching assistants (GTAs) to teach undergraduate courses has become increasingly common on college campuses (Williams & Roach, 1993). This experience is valuable, as most graduate students eventually enter academics (Golish, 1999). However, GTAs often feel that they are perceived as less credible and respectable in comparison to full-time faculty (Hendrix, 1995). The current study surveyed 170 undergraduates at a large university about their perceptions of GTAs. The majority of participants agreed that graduate students are qualified to teach classes (67%) and grade the coursework of undergraduates (74%). The majority also respected GTAs (84%) and agreed that it was a good way for graduate students to practice teaching (97%). Despite the positive responses, 71% felt that there is a difference between a GTA and a professor. In forced-choice responses, students did not report many differences in grading fairness or quality of teaching, although the lower the class level, the more likely the student was to believe that GTAs grade more fairly than professors ( $r = -.23, p < .01$ ). Men were more likely to agree than women that GTAs are worse than professors but that GTAs grade more fairly ( $p < .05$ ). In open-ended responses, students indicated that the limitations of GTAs were their lack of experience in presentation and grading, while the benefits included easier grading and better rapport.

These results were presented with an emphasis on thinking through the potential value and concerns of utilizing GTAs to teach undergraduates.

*FEMINIST IDENTITY, SELF-ESTEEM,  
& PERCEPTIONS OF GENDER  
DISCRIMINATION IN UNIVERSITY  
CLASSROOMS. DAVIS, E., JOHNSON,  
C. B., BELL, L. & SLEIGH, M. J.*

Presented at the National Institute on the Teaching of Psychology Conference, Coral Gables, FL

Emily Davis, 2006  
Cora Beth Johnson, 2006  
Laila Bell, 2006  
FACULTY MENTOR:  
Merry J. Sleigh, PH.D.  
Department of Psychology

The amount of discrimination perceived on a university campus depends on factors such as gender, feminist identity, and self-esteem (Fischer & Good, 1994; Kobrynowicz & Branscombe, 1997). The campus environment can also influence these perceptions (Fischer & Good, 1994). This study examined how 81 undergraduates' gender, race, sexual orientation, and feminist identity influenced their self-esteem and perceptions of the campus environment. A variety of results were presented that may be useful to psychology teachers who are concerned about creating environments that will be perceived as safe and encouraging for a variety of students. For example, African Americans scored lower than Caucasians on the Campus Environment Scale (CES) indicating a more negative campus experience and more discrimination perceived in the classroom,  $t(72) = -2.65, p < .05$ . Homosexual students also had lower CES scores than heterosexual students,  $t(78) = 2.28, p < .05$ . In contrast, younger age was related to higher scores on the CES,  $r = -.62, p < .01$ . These findings suggest that some groups may be more vulnerable to discrimination or more likely to perceive discrimination in the college classroom. We also found differences in perceptions of women. African Americans were more concerned about the unfair treatment of women than were Caucasians,  $t(69) = 2.2, p < .05$ . Women were more likely to agree than men that fulfillment comes from being a wife and mother,  $t(78) = -2.31, p < .05$ , which may influence their perceptions of gender discrimination. An awareness of these attitudes may help faculty better understand students' expectations, perceptions and obstacles.

*DOMESTIC VIOLENCE  
& TECHNOLOGY: NEW ISSUES  
OF CONTROL. MANETTA, A.A.,  
DUKES, J. & MOLDEN, L.*

Presented at the "Waves of the Future: Social Workers Leading the Way. 2006,  
SC NASW Spring Symposium, Myrtle Beach, SC, March 22, 2006

Jessica Dukes, 2007  
LaShonda Molden, 2007

FACULTY MENTOR:

Ameda A. Manetta, PH.D., MSW, LCSW  
Department of Social Work

New developments and crisis situations have arisen in violence against women with the advent of technology. Results of empirical research will be used so workshop participants can gain new insight to the use of technology (cell phones, computers, and GPS tracking devices) and how the technology amplifies control issues for women experiencing domestic violence.

*HIV/AIDS & SUICIDE:  
SELF-PRESERVATION INSTINCTS.  
MANETTA, A.A., & FEE, K.C.*

Presented at the "Waves of the Future: Social Workers Leading the Way. 2006, SC  
NASW Spring Symposium, Myrtle Beach, South Carolina, on March 22, 2006

Kesha Charnale Fee, 2007  
FACULTY MENTOR:

Ameda A. Manetta, PH.D., MSW, LCSW  
Department of Social Work

In the search to identify individuals at risk of suicide, a new theory based on the concept of self-preservation is emerging. This workshop will present original research that tests two aspects of the theory (capacity and desire) with a HIV/AIDS population. Participants will learn how to apply the theory in practice with vulnerable clients.

*EQUINE FACILITATED THERAPY:  
USING HORSES TO EMPOWER PEOPLE  
MANETTA, A.A. & BAKER, J.A.*

Presented at the Carolina's Field Instruction Institute, Winthrop  
University, Rock Hill, SC, April 28, 2006

Jessica A. Baker, 2007

FACULTY MENTOR:

Ameda A. Manetta, PH.D., MSW, LCSW

Department of Social Work

In some situations, unique methods are required to empower individuals; equine assisted therapy is one of these methods. Animals have long been used to bolster traditional therapeutic methods. Horses are one of the animals that have been used since the beginning of recorded history. Equine assisted therapy can be used for both psychotherapy and physical therapy because the therapy engages both the mind and the body. This alternative method of therapy is a way to empower individuals by offering them a sense of control over their environment. Many different populations can benefit from its use. Adolescents undergoing the loss of a close family member may not want to stigmatize themselves by attending a grief support group but would willingly engage in equine therapy. Children with language difficulties have increased their capacity to communicate clearly. People with physical disabilities such as cerebral palsy have shown increased muscle symmetry after engaging in the therapy. Even with these advances, many social workers still do not understand how the therapy works. This workshop will provide needed information by explaining the various components of equine assisted therapy. The training of the horses and of the handlers and therapists, how safety of people is addressed, the different populations who can engage in equine therapy, and the benefits from this therapy will be discussed. Participants will also be provided with resource information on the various different facilities where equine therapy is available in North and South Carolina.

*RELATIONSHIPS AMONG MATERIALISM,  
MONEY MANAGEMENT,  
& SOCIOECONOMIC STATUS IN YOUNG  
ADULTS. EDWARDS, A. & SLEIGH, M. J.*

Presented at the National Conference on Undergraduate Research, Asheville, NC, April 2006

Amanda Edwards, 2006  
FACULTY MENTOR:  
Merry J. Sleight, PH.D.  
Department of Psychology

Previous research has demonstrated that many young adults lack knowledge about how to manage their finances (Roberts & Jones, 2001). Being young, unmarried, or having a materialistic attitude appears to contribute to poor money management (Christopher, Marek, & Carroll, 2004; Henry, Weber, & Yarborough, 2001). The purpose of the current study was to simultaneously examine variables such as materialism, gender, SES, parental support, and money management in young adults. Participants were 50 undergraduate students with a mean age of 21.73 (SD = 4.70) and a mean credit card debt of \$540.40 (SD = 1378.40). Participants completed a 30-question survey that included items from the Money Beliefs and Behavior Scale (Furnham, 1984), the Money Attitudes Scale (Yamauchi & Templer, 1982), and the Credit Card Use Scale (Roberts & Jones, 2001). Additional questions collected information about materialism, money management, and demographics. We computed a materialism score, having a range of 5 to 25, with a higher score indicating more materialism. The mean was 11.98 (SD = 3.44). We calculated a poor money management score, having a range of 7 to 35, with a higher score indicating poorer money management. The mean was 18.04 (SD = 4.43). We also calculated a good money management score, having a range of 8 to 40, with a higher score indicating better money management. The mean was 25.50 (SD = 4.43). There were no significant relationships between the materialism score and either money management score; however, individual items on the scales did correlate. For example, the higher the materialism score, the more money participants received from their parents each week. Participants who felt superior to those with less money had greater credit card debt,  $r = .31$ ,  $p < .05$ , and felt as though there is never enough money,  $r = .33$ ,  $p < .05$ . Results also revealed no gender or SES differences in materialism, money management or level of credit card debt. These findings indicate that attitudes toward money may be more predictive of financial management than is gender or SES. In addition, our study revealed better money management in young adults than previous studies suggested.

# *MARIE DE FRANCE, THE LAIS & COURTLY LOVE*

Presented at the Sigma Tau Delta International Convention, March 29-April 2, 2006

Hallie Farmer, 2007  
FACULTY MENTOR:  
Marguerite Quintelli-Neary, PH.D.  
Department of English

Social expectations, codes of behavior, and codes of love serve as the catalysts of medieval society. Some individuals observed and promoted these codes, and others stubbornly rebuked them. A select few attempted to place an objective lens upon society, calling for the readers themselves to interpret the writing and the ideas implied through the stories. Marie de France, author of the *Lais*, demonstrates diverse perspectives of love, instruction in the manner of true love, and the role that courtly love plays in the lives of individuals. Marie often raises questions as to the existence of courtly love, supports the possibility of true love, and places equally demanding expectations upon both men and women committed to each other in love. Marie believes that a love relationship should be based upon an equal partnership and caring behavior rather than upon a strict social code of behavior. Through a close examination of the *Lais*, the evidence is clear that Marie whole-heartedly believed that lovers could successfully find true love, and she makes every attempt to demonstrate how to achieve it. However, Marie recognizes the rare occasion upon which true love actually succeeds. Through her *Lais*, Marie demonstrates both how love becomes corrupted and how love corrupts. Often the very rules, those of courtly love, that intend to encourage the survival of love, are the very rules that lead to its ultimate distortion and demise. Only through changing society's perspective of men, women, and love, Marie intuits, will true love ever have a chance of overcoming society's imprisoning codes and limitations.

# *RELATIONSHIPS AMONG DURATION OF SLEEP, DREAM CONTENT, & DREAM FREQUENCY. FAZZINO, T. L., YOUNG, L. & SLEIGH, M. J.*

Presented at the National Conference on Undergraduate Research, Asheville, NC

Tera Fazzino, 2006  
Lauren Young, 2005  
FACULTY MENTOR:  
Merry J. Sleigh, PH.D.  
Department of Psychology

Previous research demonstrated that dream recall and content depend on length of sleep (Taub, 1970a, 1970b) and gender (DeMartino, 1953). The purpose of the current study was to investigate sleep duration, dreaming, gender, and race. Participants were 69 young adults, with a mean age of 19.89 (SD =3.03). Fifty-six percent were Caucasians, and 44% were

African-Americans. Participants responded to a 31-question survey. One section of the survey was DeMartino's (1953) scale on dream content and frequency. We created the second section of the survey to assess sleep habits and demographic information. Participants slept an average of 7.51 (SD = 1.68) hours per night, with those who slept alone getting the most sleep,  $F(4,64) = 3.11$ ,  $p < .05$ . In line with previous research, we found that participants who got more sleep on the weekend reported dreaming more often,  $r = .25$ ,  $p < .05$ ; however, this relationship did not hold true for sleep duration during the weekdays. In contrast to previous research, sleep duration did not predict dream content. Participants with a higher grade point average were more likely to report color in their dream recall,  $r = .32$ ,  $p < .01$ , and less likely to believe that their dream experiences subsequently occurred in real life,  $r = .30$ ,  $p < .05$ . Participants who reported usually remembering their dreams instead of forgetting them, were less likely to report seeing color as a part of their dreams,  $t(68) = -2.02$ ,  $p < .05$ . Results also revealed that men were more likely to have dreams of a sexual nature than were women,  $t(68) = -2.14$ ,  $p < .05$ . There were no other gender differences in sleep habits, sleep duration, dream recall, or dream content. When comparing race, Caucasians were more likely than African-Americans to report dreams that included animals [ $t(64) = -2.43$ ,  $p < .05$ ] and flying [ $t(64) = -2.05$ ,  $p < .05$ ]. African-Americans were more likely to report that they dreamed about events that later came true,  $t(64) = 2.13$ ,  $p < .05$ . These findings suggest that academic performance, gender, and race may be more predictive of dream content than is sleep duration.

*AN ANIONIC, WATER-SOLUBLE  
POLYMER AS A FLUORESCENT  
SENSOR. GOODWIN, J. V.,  
WOOD, M. & LAMMI, R. K.*

Presented at the 20th Annual National Conference on  
Undergraduate Research, Asheville, NC, April 6, 2006

Joseph Goodwin, 2007  
Michelle Wood, 2005  
FACULTY MENTOR:  
Robin Lammi, PH.D.  
Department of Chemistry,  
Physics & Geology

Anionic conjugated polymers are promising cation sensors, offering bright fluorescence and superior fluorescence-quenching response upon analyte binding due to highly efficient intramolecular energy transfer along the polymer chain. We have investigated the sensing capability of an anionic polythiophene, poly[2-(3-thienyl)ethoxy-4-butylsulfonate] (Mw = 1,000,000 g/mol), in aqueous solution, using methyl viologen dication as a quencher. A detection limit of  $5.0 \times 10^{-8}$  M methyl viologen was determined for polymer solutions  $\sim 1 \times 10^{-4}$  M in monomers. In studies

with added SSC buffer, increasing buffer-ion concentration resulted in decreased quenching efficiency, suggesting a static quenching mechanism involving ground-state polymer-ion complexation. Results of quenching measurements in ethylene glycol support this assertion. The viscous solvent had no deleterious effect on measured polymer sensitivity for cation as would be expected if quenching occurred via a collisional mechanism. Stern-Volmer kinetic analysis of data in both solvents yielded a Ksv value (a measure of sensitivity) of  $\sim 7 \text{ E}5 \text{ l/M}$ , similar to the published value for a related polythiophene. Unfortunately, poor polymer solubility limited sensitivity. Three cationic surfactants, OTAB, DTAB and CTAB, were tested for their ability to break up polymer aggregates. Of the three, CTAB (cetyltrimethylammonium bromide) showed the most promise giving an 11-fold increase in polythiophene fluorescence intensity and a narrowed, blue-shifted polymer absorption spectrum consistent with decreased polymer aggregation. The polythiophene-CTAB solution ( $1 \text{ E-}4 \text{ M CTAB}$ ) showed a strong quenching response to methyl viologen with a similar Ksv value ( $\sim 3 \text{ E-}5 \text{ l/M}$ ) indicating that polymer-surfactant complexation only slightly decreases polymer availability to quencher. Future efforts will focus on determination of metal-ion concentrations and examination of related polymers with side chains tailored to improve solubility.

*WHAT SHOULD BE TAUGHT TO  
STUDENTS ABOUT E-GOVERNMENT?:  
A COMPARISON OF EDUCATION VERSUS  
PRACTICE IN TWO SUB-NATIONAL  
GOVERNMENTS. POLTAVETS, A., SCAVO,  
C., DEZENDORF, P.K. & HECKL, E.*

Presented to the 14th NISPAcee Annual Conference, Schools of Public Administration of Eastern and Central Europe (NISPAcee) in Ljubljana, Slovenia, 2006

Emily Heckl, 2007  
FACULTY MENTOR:  
Paul Dezendorf,  
PH.D. MSW, MBA,  
Department of Social Work

At this time, public administration programmes in all countries are expanding their teaching of electronic government, an area of extremely rapid change, in order to lessen the gap between what is taught and what is actually practiced. This presentation compares what is taught in typical schools of public administration with what is practiced in state agencies in North Carolina and in the Sverdlovsk Oblast of Russia. The research uses state government agencies in both locations and the Urals Academy of Public Administration in Ekaterinburg, Sverdlovsk Oblast (the oblast's capital) and

the Master of Public Administration programs at East Carolina University and North Carolina State University in North Carolina. The primary data from Sverdlovsk was gained by personal interviews using a semi-structured questionnaire from representatives from all major ministries of the oblast government and the e-government technical group. In addition, pedagogical materials (including texts, lecture materials, and assignments) were examined and interviews were conducted with faculty and administration of the Urals Academy of Public Administration. Primary data from North Carolina was obtained from personal interviews from major state agencies, the state's e-government unit, and surveys of government employees. In addition, pedagogical materials were similarly examined and interviews were conducted with appropriate faculty at East Carolina University (ECU) and North Carolina State University (NCSU). The results of the research indicate that electronic government's progress has far outreached what is being taught in the curriculums of public administration except for a limited number of elective courses. Administrators are concerned with the gap between teaching and practice but lack consensus regarding what should be taught. Faculty in general lack behind developments in electronic government and also lack consensus regarding what should be taught.

*BREASTFEEDING & THE SOCIAL  
CONTEXT OF BREASTFEEDING  
RIGHTS: TRIANGULATING PUBLIC  
ATTITUDES ABOUT THE RIGHT  
TO BREASTFEED. HECKL, E.,  
KEDROWSKI, K. & LIPSCOMB, M.*

Presented at the 2006 Annual Meeting of the Western Political  
Science Association Albuquerque, NM, March 17, 2006

Emily Heckl, 2007  
FACULTY MENTOR:  
Karen Kedrowski, PH.D.  
Michael Lipscomb, PH.D.  
Department of Political Science

Though the legal articulation of rights is an important dimension of breast-feeding politics, this paper argues that focusing solely on rights in this way risks distorting our understanding of how those rights are put into practice. In order to avoid this oversimplifying focus on the legislative and judicial status of breastfeeding rights, we have begun to take a look at how the politics of breastfeeding operates below and beyond the level of government institutions. This paper explores how public attitudes towards breastfeeding affect breastfeeding rights using a three-pronged approach that allows us to "triangulate" public attitudes about breastfeeding. First, our paper

surveys media coverage of breastfeeding by looking at how various print and televisual media treat the topic of breastfeeding. Second, we begin to look at survey data in order to more directly gauge public opinion about breastfeeding. Public opinion data show generally positive attitudes towards the practice of breastfeeding. At the same time, however, public policies enacted by state and federal government do not fully protect women's rights to breastfeed in public, or work at cross purposes with the government's goals of promoting breastfeeding. Breastfeeding questions, like questions about race, may not illicit completely honest responses in public opinion surveys. Therefore, the third prong of our effort to triangulate the social understanding of breastfeeding will be an experiment that seeks to tap a pre-verbal dimension of individual attitudes about breastfeeding as a complement to the attitudinal data collected through polls and media analyses. More specifically, this experiment will record the respondents' reactions to a variety of breastfeeding images using a methodology for tapping response latencies developed within the field of cognitive psychology. In this experiment, we will ask subjects to respond to images of breastfeeding drawn from magazines, television, movies and catalogs by signaling whether they approve or disapprove of each image. The experiment records both the subjects' conscious approval or disapproval and the speed with which those answers are recorded, thus tapping the intensity of those opinions.

## *STEM-CELL AUGMENTED REPAIR IN BIO-ENGINEERED CARDIAC MODEL*

Presented at the 20th National Conference on  
Undergraduate Research, Asheville, NC, April 2006

Josillia Johnson, 2007  
FACULTY MENTOR:  
Dwight Dimaculangan, PH.D.  
Department of Biology

Cardiovascular disease is the leading cause of death in industrialized nations and accounts for nearly 40% of all deaths in the United States. As a whole, the cellular and molecular mechanisms that underlie heart disease are poorly understood. There is much debate in the field of cardiobiology regarding the precise responses of cardiac cells to tissue damage. We are studying the cellular responses of a three dimensional (3D) bioengineered cardiac model to injury. Cryoinjury by liquid nitrogen is a standard method used to mimic ischemic injury with in vivo models. In this study we have developed an injury method for an in vitro 3D cardiac tissue culture model. Without the complicated effects of inflammation, as seen in vivo, it will be easier to characterize cellular responses to cryoinjury. Using fluorescent and scanning electron microscopy, our preliminary data shows that the liquid nitrogen injury method causes extensive damage to collagen tube. As an alternative, we developed a method using a dry ice cylinder as the injury tool. Unlike the liquid nitrogen-chilled probe, this method of injury does

not deplete the injured area of cells or destroy the collagen substrate. We are currently studying the long-term effects of cryoinjury on our heart model in terms rates of necrosis, apoptosis, and cell proliferation in comparison to in vivo systems, and the potential for stem cells to augment cardio tissue repair. The results of these experiments may lead to strategies aimed at minimizing myocardial damage and optimizing cardiac repair after injury in humans.

*SOCIAL INHIBITION IN EARLY  
CHILDHOOD: PREDICTORS FROM  
INFANCY. FORTNER-WOOD, C.,  
JOCOY, K. & DANIELS, C.*

Presented at the Biennial Meeting of the International Society on  
Infant Studies, Kyoto, Japan, June 19-23, 2006

Kathleen Jocoy, 2008  
Cassery Daniels, 2008  
FACULTY MENTOR:  
Cheryl Fortner-Wood, PH.D.  
Department of Psychology

In this study, we examined the relationship between infant predictor variables and social inhibition in early childhood using data from the NICHD Study of Early Child Care and Youth Development. Social inhibition was measured at 6 months using questions from the infant temperament questionnaire and at 4 ½ years using questions from the Children's Behavior Questionnaire. Inhibition during infancy, gender, ethnicity, family structure, parents' education, family income, hours spent in child care (at 6 m), and infant-parent attachment security were used to predict social inhibition at 4 ½ years. Our results suggest that later social inhibition is best explained by ethnicity and hours spent in child care. African American children were perceived as more socially inhibited as infants and less socially inhibited as preschoolers when compared to their white peers. Inhibition at 6 months did not predict inhibition in early childhood.

*DETERMINATION OF POPULATION  
DYNAMICS OF DE BRAZZA'S MONKEYS  
(CERCOPITHECUS NEGLECTUS)*

Presented to the Biology Department, Winthrop University, April 19, 2006

Kathryn Kohl, 2006  
FACULTY MENTOR:  
Dwight Dimaculangan, PH.D.  
Janice Chism, PH.D.  
Department of Biology

The de Brazza's monkeys (*Cercopithecus neglectus*) face severe habitat destruction, human encroachment, and hunting in Africa. To ensure their survival, an effective conservation program based on population dynamics must be developed. It has been suggested that both males and females of these unique forest guenons disperse from their natal groups at puberty, in contrast with all other guenons. However, the species' socioecology is difficult to study since the de Brazza's monkey is elusive and inhabits an inaccessible habitat. Thus, this project sought to create and refine methods to allow field researchers to study the matrilineal relationships of wild de Brazza's monkeys by examining their mitochondrial genomes non-invasively extracted from hair samples. We chose to examine the mitochondrial genome because it is maternally inherited and contains two hypervariable regions that incorporate single nucleotide polymorphisms faster than the nuclear genome. We hypothesized that samples exhibiting a high degree of conservation across a population would indicate that female dispersal occurs, whereas sequences conserved only within groups would indicate that female dispersal does not occur. We have developed protocols allowing the extraction, amplification, purification, and sequencing of both hypervariable regions from several captive monkeys in American zoos. Currently, we are analyzing the sequences to determine if there is a correlation between the number of single nucleotide polymorphisms and the matrilineal relationships of the captive monkeys. If these techniques are shown to accurately predict familial relationships, they will then be used to study wild populations of de Brazza's monkeys in Africa.

# *FRAMING THE STORY: USING ROBERT ENTMAN'S CASCADING NETWORK ACTIVATION MODEL TO EXPLAIN MESSAGE FRAMES USED DURING HURRICANE KATRINA*

Presented at the 20TH National Conference on Undergraduate  
Research, Asheville, NC, April 2006

Sayward C. MacInnis, 2006

FACULTY MENTOR:

Marilyn S. Sarow, PH.D.

Department of Mass  
Communication

Using Robert M. Entman's Cascading Network Activation Model, this paper analyzes the message framing of politicians and the media during the Hurricane Katrina crisis. Entman's model contains five levels of power. From top to bottom, strongest to weakest, they are: administration, other power elites, the media, news frames, and the public. Each level affects the other. In fact, the media or public can create the frame by pushing their desired frame upward through the cascade. But as water does not flow upwards without great effort, likewise, the influence of the public on framing is most often rare and weak. Using content analysis of two newspapers and press releases from political figures, a two-week period – August 29, 2005 to September 11, 2005 – was studied to determine how administration's and the media's frames differed and why. This paper also analyzes how the media determined Katrina's frame rather than administration; though, according to Entman's model, administration should have had the greater power.

# *TAPPING INTO THE GENDER COMMUNICATION GAP*

Presented to the Southeastern Writing Center Association,  
UNC-Chapel Hill, February 19, 2006

Jamerson Magwood, 2006

FACULTY MENTOR:

Jane Bowman Smith, PH.D.

Department of English

Good communication is crucial for a writing tutorial to be effective. Males and females exhibit different traits with body language. By understanding traits in body language, a tutor can use certain strategies to overcome nonverbal communication boundaries. People take body language for granted, and this can lead to possible misinterpretations during tutoring sessions by students and even tutors. Barbara Eakins in her book, *Sex Differences in Human Communication*, explains that 65 percent of our communication is based purely on unconscious physical expressions. Tutors

must be more cognizant of the power of body language because when they speak, nonverbal messages can contradict verbal statements. The paper focuses on the problems of gender communications and offers different strategies so the students feel respected while receiving help in the Writing Center. In order to identify important elements and then to learn strategies for decreasing potential barriers for communication, I observed many tutorials. Being aware of these different body language expressions by both sexes while applying certain approaches will help tutors tap into the gender communication gap, thereby leading to more successful tutoring sessions.

*ARE YOU ON FACEBOOK?  
THE EMERGENCE OF DIGITAL  
CONTENT & THE NEED FOR  
REASSESSING AND RESTRUCTURING  
TRADITIONAL RHETORIC*

Presented to the Winthrop Literary Society and Department of English  
Scholars Conference, Winthrop University, April 1, 2006

Jamerson Magwood, 2006  
FACULTY MENTOR:  
Josephine Koster, PH.D.  
Department of English

Until recently, many colleges and universities have seen the increased involvement of students on Facebook. The emergence of Facebook on the internet has prompted many students to use its connective resources to establish a multitude of relationships. As a medium of digital media, Facebook has become a strong community, but the standards of rhetorical criticism must change to explain its appeal. These rhetorical standards have trouble explaining the appeal, which newer theories now aim to explain. Barbara Warnick asserts that traditional departments of rhetoric struggle to assess multimodality. Digital texts, which feature interactivity, cannot be adequately explained by traditional rhetorical criticism, which prompts limits in rhetorical standards. Multimodality explains the wide range of formats used to present specific content, i.e. video, audio, and images. Electronic rhetorical theories have begun to analyze the extended modes and unique generic properties establishing texts like Facebook as a strong community. This essay discusses how newer multimodal models of rhetorical analysis allow us to make sense of emerging rhetorical communities such as those represented by Facebook. I compare traditional and newer forms of rhetorical strategies to explain the gap between printed content and electronic content and analyze features of several Facebook sites, including (with permission) sites posted by members of the Winthrop University English Department.

*THE ROLE OF METHYLATED  
GROUPS IN THE BINDING OF  
HIGH MOBILITY GROUP A1A TO  
DNA. PACE, K. & SUMTER, T.F.*

Presented at the National Conference on Undergraduate Research, Asheville, NC, April, 2006

Kelly Pace, 2008  
FACULTY MENTOR:  
Takita Felder Sumter, PH.D.  
Department of Chemistry,  
Physics & Geology

The high mobility group A, HMGA, proteins are a family of proteins involved in transcriptional regulation, retroviral integration, and cancer initiation. The family members are all over expressed in cancers and have established oncogenic properties. The precise mechanisms involved in HMGA-mediated transformation are unclear. All HMGA proteins possess three characteristic AT hook motifs and an acidic carboxy-terminal tail. Previous studies suggest that in transcription, these AT hook motifs act cooperatively to facilitate the binding of the HMGA proteins to their DNA targets while the acidic amino acid residues located within the C-terminal tail provide binding specificity. More recently, it has been noted that arginine residues located within the AT hook DNA binding domains of HMGA proteins possess covalently linked methyl groups in proteins isolated from cancerous specimens. It is possible that this arginine methylation plays a role in binding of these proteins to oncogenic DNA targets. To study the role of arginine methylation in DNA binding, we overexpressed HMGA1a in prokaryotic and eukaryotic expression systems. Prokaryotic expression allows rapid and high level production of HMGA lacking the posttranslational methyl residues. Since the methylated groups are formed through post translation modification, to make protein without them cells incapable of post translational modification will be used; bacterial cells meet this criteria. The yields and methods of protein isolation will be discussed and future studies will entail the development of a fluorescence assay to quantify the binding of HMGA proteins to its DNA targets. It is likely that these and other studies will lead to specific and more effective cancer therapies.

*COMPARATIVE GENOMICS OF FOOT-  
AND-MOUTH-DISEASE VIRUS (FMDV):  
PHYLOGENY, EVOLUTION &  
ANTIGENIC VARIABILITY. POLSON,  
A.F. & WESTOVER, K. M.*

Presented at the Beta Beta Beta South East District Convention,  
Gatlinburg, TN, March 30-April 1, 2006

Amanda Faith Polson, 2006

FACULTY MENTOR:

Kristi M. Westover, PH.D.

Department of Biology

Foot and Mouth Disease Virus (FMDV) is a member of the family Picornaviridae and the genus Aphthovirus. Seven distinct serotypes have been identified: A, O, C, SAT1, SAT2, SAT3, and Asia 1. The positive-sense, single stranded RNA genome contains approximately 8,000 bases and, upon virus entry into the cell, is translated into a polyprotein that is post-translationally cleaved to make twelve individual mature proteins. FMDV is one of the most contagious animal diseases and has the potential to eradicate tremendous numbers of livestock causing great economic losses if not controlled. Complete (118) genome sequences were aligned at the amino acid level and phylogenetic trees have to date been generated by the maximum parsimony (MP), maximum likelihood (ML), minimum evolution (ME), and neighbor-joining (NJ) methods using the uncorrected proportion of amino acid differences (p). Our results support the proposed classification scheme with two major lineages of serotype O (bs=100%) most closely related to Asia 1. Within the A serotype, we found evidence of transmission via international trade from Europe to Central America. In addition, there was significant support for placement of two unclassified Taiwanese sequences within the serotype O clade (bs=92%). Within SAT serotypes, there was significant support (bs=100%) for a fourth subtype (Figure 1). Four sequences, classified as SAT1 and SAT2 formed a clade, distinctly separate from the others. We recommend designation of a fourth SAT subtype. Estimation of synonymous and nonsynonymous substitution rates suggest conserved evolution of antigenic sites with one exception where there was significantly greater nonsynonymous change in the epitope compared to the remainder of the VP3 capsid protein.

*WORK-FAMILY CONFLICT IN  
BLUE-COLLAR & WHITE-COLLAR  
WORKERS. RAGAN, A.R., MORPHIS,  
C.M., SWINSON, H.M. & RITZER, D.R.*

Presented at the Southeastern Psychological Association  
(SEPA) conference, Atlanta, GA, March, 2006

Amanda Ragan, 2006  
Carrie Morphis, 2007  
Holly Swinson, 2007

FACULTY MENTOR:

Daren Ritzer, PH.D.

Department of Psychology

Work-family conflict has two main dimensions, work interfering with family (WIF) and family interfering with work (FIW; Gutek, Searle, & Klepa, 1991). Most research on this topic focuses on white collar workers (i.e., supervisory and management positions). Little research has been done on work-family conflict among blue collar workers (e.g., manufacturing and construction positions). We distributed surveys to seven local companies upon gaining permission from individual Human Resources departments. The surveys were modified versions of Kopelman, Greenhaus, and Connolly's (1993) work interference with family scale and Burley's (1989) family interfering with work scale. Twelve additional items were devised by the authors. Participants were categorized as blue collar ( $n = 36$ ) or white collar workers ( $n = 58$ ) and information about work-family conflict, family-work conflict, gender, income, and number of hours worked was collected. We found no significant difference in work-family conflict between blue collar and white collar workers ( $t(92) = .566, p > .05$ ) and no significant difference between men and women in terms of work-family conflict ( $t(92) = .769, p > .05$ ). We also found that there were higher levels of work interfering with family than family interfering with work for both job types ( $t(92) = 7.96, p < .05$ ). Interestingly, there was not a significant correlation between income and work-family conflict ( $r = .047, p > .05$ ), nor was there a significant correlation between the number of hours worked and work-family conflict ( $r = .141, p > .05$ ). These findings suggest that overall work-family conflict (WIF and FIW) levels are similar for white collar and blue collar workers and are also similar for men and women. Blue collar workers tend to deal with physical strain at work while white collar workers tend to deal with mental strain. Although blue and white-collar workers experience different types or sources of stress, the overall levels of work family conflict, and thus, the negative impacts on their respective families and respective jobs are the same. It is critical for employers to understand that, regardless of job type or gender, work-family conflict is an important human resource issue.

# *SELECTIVE REDUCTION OF α,β-EPOXYCARBONYLS WITH DIMETHYLPHENYLSILYL LITHIUM*

Presented to the Chemistry Department, Winthrop University, December 9, 2005

Samantha Reynolds, 2007

FACULTY MENTOR:

Aaron M. Hartel, PH.D.

Department of Chemistry,

Physics & Geology

Aldols, which are also referred to as α-hydroxyketones, are useful intermediates in organic syntheses. An aldol product is typically formed from a reaction between a ketone and an aldehyde; however, other reactions that afford aldol products from different starting compounds could prove to be useful in organic syntheses. Dimethylphenylsilyllithium was explored as a reagent that could selectively reduce various α,β-epoxycarbonyls to the corresponding aldol products. The proposed mechanism for the reaction involves a Brook rearrangement which is assisted by an epoxide ring opening. The α,β-epoxycarbonyls were synthesized from allylic alcohols. Each allylic alcohol was first epoxidized with meta-chloroperoxybenzoic acid (mCPBA) to the corresponding α,β-epoxyalcohols. Swern oxidation of the α,β-epoxyalcohols yielded corresponding α,β-epoxycarbonyls. The dimethylphenylsilyllithium reagent was produced from lithium and chlorodimethylphenylsilyllithium and was used in reactions with the synthesized α,β-epoxycarbonyls. The dimethylphenylsilyllithium reagent successfully reacted with α,β-epoxyketones, but did not react with an α,β-epoxyaldehyde. The aldol products formed from these reactions were isolated and analyzed by <sup>1</sup>H NMR to determine that the selective reduction was a success.

# *THE SIGNIFICANCE OF OVERLAPPING READING FRAMES IN THE GAG-POLYMERASE COMPLEX OF CAPRINE LENTIVIRUSES. ROBINSON, C. C. & WESTOVER, K. M.*

Presented at the Beta Beta Beta South East District  
Convention, Gatlinburg, TN, March 30-April 1, 2006

Christopher Chad Robinson, 2006

FACULTY MENTOR:

Kristi M. Westover, PH.D.

Department of Biology

Caprine arthritis encephalitis virus (CAEV) is a member of a group of small ruminant lentiviruses. The genome is approximately 9.2 kb in size and codes for 4 main proteins (gag, pro, pol, and env), including reverse transcriptase. CAEV are economically important pathogens infecting goats

primarily via horizontal transfer through virus-ingested milk in the first few days of life. We conducted a phylogenetic analysis using SRLV gag and polymerase sequences to examine evolutionary relationships among two of the four proposed serotypes (B1 and A3). In addition, the phylogeny was used to identify five independent pairs for analysis of synonymous (dS) and nonsynonymous (dN) substitution rates in overlapping and non-overlapping regions of the gag-polymerase complex. Sequences were aligned at the amino acid level and phylogenetic trees were generated by the maximum parsimony (MP), maximum likelihood (ML), minimum evolution (ME), and neighbor-joining (NJ) methods using the uncorrected proportion of amino acid differences (p). We found no support for separation of A3 and B1 serotypes. dS was always significantly greater than dN for both overlapping and non-overlapping regions of gag and pol genes. However, dN in the overlap was significantly greater than dN for both non-overlapping regions of gag and pol genes. This is contrary to our hypothesis that regions of overlap are under more evolutionary constraint. Perhaps this is because more conserved antigenic regions are in the non-overlapping portions of the complex. We have found no difference to date between substitution rates in the epitope region of the gag gene compared to the remainder and indeed dS is greater than dN, but we propose to add more gag-polymerase sequences and increase our statistical power to further test this hypothesis.

## *SPOONS AND FORKS: USING HISTORICAL CRITICAL & LITERARY CRITICAL METHODS TOGETHER FOR INTERPRETING THE NEW TESTAMENT*

Presented at the National Conference on Undergraduate Research, Ashville, NC, April 2006

Kathleen E. Shields, 2006

FACULTY MENTOR:

Peter J. Judge, PH.D.

Department of Philosophy  
& Religious Studies

There has long been a debate on the most effective way to interpret the New Testament. Today most biblical scholars employ two main forms of interpretation: historical criticism and literary criticism. The basic idea behind historical interpretation is to develop an understanding of the text against the background of the time period and culture in which it was written. On the other hand, literary criticism focuses on examining the text as a finished product, interpreting the meaning and symbolism of the words for the reader now. Many scholars choose to use these two methods separately, but this paper will demonstrate the importance of examining a text under the lens of both methods together by looking at the passage found in Mark 7:24-30. In this passage, a Canaanite woman approaches Jesus asking for help for her daughter who is possessed. After

she is rejected with a seemingly snide remark, she turns this remark around and convinces Jesus to help her. This paper will explore the historical context of the location of this story and the posture of the woman and at the same time investigate the use of the word “dog” in the story as well as the possible implications of a comment that seems so uncharacteristic of Jesus.

## *APPLYING LESSONS FROM POSITIVE PSYCHOLOGY TO BENEFIT STUDENTS*

*WEBSTER NELSON, D.W. & STOWASSER, T.*

Presented at the National Institute on the Teaching of Psychology, January 2006

Tammy Stowasser, 2008  
FACULTY MENTOR:  
Donna Webster Nelson  
Department of Psychology

College life can be demanding, as students are faced with a variety of challenges and potential stressors. A notable example concerns coping with frequent evaluations inherent to college coursework. The inability to cope successfully with such stressors may be debilitating. Indeed, Sarason (1984) notes that evaluation apprehension not only promotes the unpleasant feelings of worry, insecurity, and self-doubt, but also impairs academic performance. Identifying mechanisms for enhancing student coping is thus an important goal. Recently, psychologists have begun to focus on the value of adopting a positive perspective in relation to explorations of the human condition, focusing on capabilities, potentials and successes (e.g., Sheldon & King, 2001; Seligman, 2002). Relevant research indicates that positive affect can serve as a buffer during times of stress (Frederickson, 2000; Folkman & Moskowitz, 2000). A plentitude of additional studies have linked successful coping with dispositional tendencies toward optimism (e.g., Scheier, Carver & Bridges, 2000; Chemers, Garcia & Hu, 2001) and self-efficacy (e.g., Bandura, 1986,1997; Multon, Brown & Lent, 1991). However, the idea of promoting these positive tendencies in all individuals has received relatively little attention. Our research sought to develop a classroom intervention that would create positive (as opposed to negative) emotions and an optimistic (vs. pessimistic) mindset, thereby promoting enhanced coping with a class stressor involving public speaking. Students in an introductory psychology class were given a debate assignment that involved public speaking. They were told that the debate would begin following a voluntary writing task and survey. Participants were then randomly assigned to either a positive thought task or a control task. Those in the positive thought condition (assigned to write about successful personal experiences and positive affect) derived several benefits (when compared to control participants who wrote about their morning routine). Specifically, those in the positive thought condition experienced relatively more positive affect and less negative affect than the control participants. They also exhib-

ited a more optimistic outlook and reported less anxiety about the upcoming debate. These findings suggest that positive thought interventions can serve as valuable class activities that provide tangible benefits to students.

## *THE FRENCH LIEUTENANT'S WOMAN*

Presented at Sigma Tau Delta National Conference in Portland, OR, March 31, 2006

Leanna Trimper, 2006  
FACULTY MENTOR:  
Marguerite Quintelli-Neary, PH.D.  
Department of English

In *The French Lieutenant's Woman*, a “charge-retreat” pattern is used to provide the reader with ownership. The pattern shows the confused and indecisive nature of the characters and how the narrator is able to constantly tease the reader, leading them to building action only to bring them abruptly back down. By using this pattern, Fowles allows his readers to evolve along with the characters. The readers are forced to make decisions similar to the decisions Fowles forces on his characters. Readers of *The French Lieutenant's Woman* examine the “charge-retreat” pattern, whether consciously or not, and make decisions based on that. However, the way Fowles presents the pattern affects how the reader's decisions are made. The reader will make the decision, but it will ultimately be based on how the pattern has been used within the book.

## *THE ROLE OF THROMBOMODULIN, THROMBIN, PROTEIN C AND ACTIVATED PROTEIN C IN PROSTATE TUMOR CELL MOTILITY. WILEY, R. & GLASSCOCK, L.*

Presented at the Beta Beta Beta National Biological Honor Society  
Southeastern Regional Meeting, March 2006

Rachel Wiley, 2006  
FACULTY MENTOR:  
Laura Glasscock, PH.D.  
Department of Biology

Prostate cancer (CaP) is the second leading cause of cancer deaths in men. Patients with CaP are at a high risk of developing thrombosis. Thrombosis develops when excess thrombin (IIa), a serine protease which causes a fibrin clots, is generated. Thrombomodulin (TM) is an endothelial cell receptor for thrombin that normally decreases thrombin activity by activating protein C into activated protein C (APC). APC inactivates coagulation by inhibiting thrombin generation. Interestingly, TM has been found

in elevated levels in the tissue and serum of CaP patients (Glasscock 2005). Thrombin and APC have been shown to be pro-metastatic in other types of cancer (Lindahl et al 1993). We studied how the TM-IIa-APC system regulates the ability of the CaP cell line PC-3 to metastasize. Scratch Migration assays were done in the presence and absence of TM, thrombin, protein C, and APC. Blocking TM expression with anti-TM MAb decreased migration of PC-3 cell lines by 54%. In contrast, thrombin, protein C, and APC did not change the ability of PC-3 cell lines to move. Therefore, although TM regulates PC-3 CaP cell line motility, it does so via a mechanism other than the thrombin-protein C-APC system.

*FROM “TRYING TO SAY” TO VOICELESS,  
WORDLESS MEASURES: LANGUAGE  
AND THE CONFUSION OF GENDER  
IN THE SOUND & THE FURY*

Presented at the National Conference on Undergraduate Research, Asheville, NC, April 2006

Allison Wise, 2006  
FACULTY MENTOR:  
Gloria Jones, PH.D.  
Department of English

In *The Sound and the Fury*, William Faulkner sets up a number of boundary lines—between whites and blacks, and rich and poor, for example—and then undermines these boundaries through his description of the characters and the nature of their interactions. In this paper, I argue that in the area of gender, Faulkner blurs male/female identities from the beginning of the text, inverting traditional gender traits and mixing the sexual imagery. In the area of expression, however, both sexes remain in their ordered places: the men communicate through a heavily symbolic language, and the women are silent. By blurring the dividing lines of traditional gender identities, Faulkner introduces an uncertainty about the stability and determinacy of male-oriented language and points toward a new discourse which could better express multiplicity of meaning, but at the end of the novel he retreats back into word-centered communication, able only to suggest and not employ a language free from boundaries. Language and gender in *The Sound and the Fury* have garnered a considerable amount of critical attention, but as separate issues. This essay attempts to show the unique intersection of gender and language in this text and how an awareness of their relationship is crucial to an understanding of Faulkner's novel.

# *TAKING BACK AMERICAN DEMOCRACY*

Presented at Southern Region Honors Council Conference and at the annual meeting of the South Carolina Political Science Association, Spring 2006

John Cryderman, 2006  
FACULTY MENTOR:  
Scott Huffmon, PH.D.  
Department of Political Science

When looking at citizen apathy in the United States, one has to question the health of American democracy. The health of any given democracy can be assessed by the theoretic standards of democratic forms of government that require near universal participation of a fully aware and highly sophisticated public. Perhaps the solution to the problem of democratic responsiveness lies in structural changes in the American electoral process such as electoral redistricting and Electoral College reform to force more competitive elections, but the solution cannot end here. Educational changes also need to occur so as to ensure a sophisticated populous at all levels of social stratification. While these solutions may seem improbable, they are necessary for long term democratic reform.

## *EXAMINATION OF A SHORT PERSONAL FABLE SCALE DAUGHERTY, T., WEBSTER, S., FRIPP, J., POSTON, K. & PRATT, T.*

Presented at the Annual Meeting of the Southeastern Psychological Association in Atlanta, GA on March 18, 2006

Sarah Webster, 2006  
Jessica Fripp, 2007  
Kyle Poston, 2006  
Tiffany Pratt, 2006  
FACULTY MENTOR:  
Tim Daugherty, PH.D.  
Department of Psychology

The personal fable refers to a perception of one's self as unique, omnipotent, and invulnerable. These beliefs purportedly rise in early adolescence and may, for some, never be entirely overcome. The New Personal Fable Scale (NPFS; Lapsley et al., 1989) is a 46 item self-report test with three subscales reflecting the components of the PF construct. The authors of the current study sought to shorten the NPFS to 21 items and to examine the new scale's properties in a sample of college students. Gender and collegiate Greek status were predicted to influence perceptions of invulnerability. The shortened scale appeared to enjoy psychometric properties similar to the original measure (Greene et al., 1996). As expected, Male Gender and Collegiate Greek status were associated with higher self-perceived Invulnerability. To the extent that reliability and factorial integrity are maintained, shorter tests may have greater utility. Future research will include thorough item analysis and produce alternative short forms of the NPFS.

# *EXISTENTIAL LAW: SUBJECTIVITY IN THE JUDICIARY & LEGISLATURE*

Presented at the National Conference on Undergraduate Research, Asheville, NC, April 2006

John Heath Whatley 2007

FACULTY MENTOR:

David Meeler, PH.D.

Department of Philosophy  
& Religious Studies

Traditional theories of law only describe the nature of the law without much consideration for any particular subject's views or opinions. These theories lack a full consideration of the relationship between subject and law. This study will focus on the subjects who have a subjective influence on the law and the nature of that relationship between subject and law. I will develop an existentialist's understanding of the law which considers how subjective writers and interpreters of law are related to law. However, to understand the subject/law relationship, we should inspect those theories of law, which actually describe what law is. While Ronald Dworkin's theory of law will outline the law as a thing in the world, the law-in-itself, with which subjects as judges and legislatures interact with. Dworkin's theory does not fully evaluate the judges' subjectivity during this application. Similarly, legal realism explains that law is whatever the judge decides, but does not consider the subjective process the judge goes through in making a decision. The legislators and judiciary represent how subjects have direct influence over the law. I will investigate when legislatures and judges are authentically and inauthentically writing and interpreting the law. For instance, legislatures may only delegate the majority position of their constituencies rather than voicing their own subjectivity when voting in and writing the law. Also judges may consider the written law and the authorial intent thereof rather than their own subjectivity when deciding cases and interpreting the law. This investigation will fill in the gap of the philosophy of law, which does not consider the legislative and judiciary subjects' relationship to the law.

*UNDERGRADUATES' PERCEPTIONS OF  
AND WILLINGNESS TO RESPOND TO  
HAZING SITUATIONS. FISHER, K. M.,  
HUNT, A., ADAMS, J. & SLEIGH, M. J.*

Presented at the Southeastern Psychological Association conference, Atlanta, GA, 2006

Kristin M. Fisher 2006

Alex Hunt 2006

John Adams 2006

FACULTY MENTOR:

Merry J. Sleigh, PH.D.

Department of Psychology

The current study examined undergraduates' perceptions of and willingness to respond to hazing situations. Each participant responded to eight hazing scenarios, created from public records of hazing incidents, indicating whether the incident was hazing, the level of hazing, and their likelihood to intervene. On six scenarios, Greek and non-Greek students held similar views; however, Greek students were more likely to find required serenading [ $F(2,49) = 9.94, p < .01$ ] and kicking soccer balls at a new player [ $F(2,49) = 3.84, p < .05$ ] as appropriate behaviors. Greeks were more likely to report having been a victim of hazing than either group of non-Greeks,  $F(2, 49) = 3.47, p < .05$ . Victims of hazing were more likely to agree that required serenading [ $t(36) = -3.09, p < .05$ ], hitting a new military recruit [ $t(36) = -4.55, p < .05$ ], kicking soccer balls at a new player [ $t(44) = -2.68, p < .05$ ], and mandatory participation in a scavenger hunt [ $t(36) = -2.29, p < .05$ ] were hazing than did non-victims. Gender also influenced perceptions. Women were more likely to agree that hitting a new military recruit [ $t(50) = -2.26, p < .05$ ], required serenading [ $t(50) = -2.17, p < .05$ ], and kicking soccer balls at a new player [ $t(50) = -2.41, p < .05$ ] were hazing. Women also reported being more willing to intervene than men in regard to younger teammates' being required to carry team equipment [ $t(49) = -2.09, p < .05$ ], hitting a new military recruit [ $t(50) = -2.06, p < .05$ ], required serenading [ $t(50) = -2.59, p < .05$ ], and kicking soccer balls at a new player [ $t(50) = -2.63, p < .05$ ]. The only exception to this pattern was that men were more likely to consider mandatory participation in a scavenger hunt as hazing,  $t(50) = 2.37, p < .05$ . Caucasians and African-Americans did not significantly differ on six of the eight presented scenarios. However, Caucasians were more likely to view required serenading [ $t(47) = 3.30, p < .05$ ] and kicking soccer balls at a new player [ $t(47) = 2.68, p < .05$ ] as appropriate behavior.

# *THE SCHOLASTIC APTITUDE TEST & ITS RELATIONSHIP TO COLLEGE PERFORMANCE. FORCE, J.*

Presented at the National Conference on Undergraduate Research, Asheville, NC, April, 2006

Jessica Force, 2007  
FACULTY MENTOR:  
Merry J. Sleight, PH.D.  
Department of Psychology

Two common factors used in college admissions are the Scholastic Assessment Test (SAT) and the American College Testing Program Assessment (ACT) (Hogan, 2003). Previous research has revealed that the predictive value of these tests for college performance may depend on race (Lawlor, Richman & Richman, 1997) and athletic involvement (Adams-Gaston & Sedlacek, 1992). Thus, there is continued controversy over the value of these measures. The purpose of the current study was to examine the relationships among standardized test scores, college grade point average (GPA) and attitudes toward performance. Participants were 48 college students, with a mean age of 22.38 (SD = 6.08). Participants completed a 27-question survey created by the researcher. Results revealed that the higher participants' current GPA, the higher their SAT total score,  $r = .37$ ,  $p < .05$ . The SAT sectional scores (i.e., verbal and math) and the ACT did not predict current GPA. Regardless of SAT score, 35.6% of participants believed the SAT to be an important factor in college admissions criteria. However, 37.8% of participants did not feel that the SAT was a good reflection of their personal performance in college and did not feel that the SAT was a good predictor of college performance. The more participants felt that SAT scores were a good reflection of performance, the more important they felt the SAT should be for college admission,  $r = .60$ ,  $p < .01$ . The same pattern held true for ACT scores,  $r = .90$ ,  $p < .01$ . Results also revealed that men scored higher on the math section of the SAT than women,  $t(13) = 2.54$ ,  $p < .05$  and had higher SAT total scores than women,  $t(38) = 3.14$ ,  $p < .01$ . However, women were more likely to agree that they were pleased with their SAT score than were men,  $t(42) = 2.11$ ,  $p < .05$ . An independent t-test revealed no differences between Caucasians and African-Americans or between employed and non-employed students on standardized test scores, college performance, or attitudes. These findings indicate that the SAT may have predictive value for college admissions; however, not all college students perceive this value.

*EFFECTS OF EARLY PHYSICAL OR  
MENTAL ABUSE ON YOUNG ADULT'S  
ABILITY TO FORM RELATIONSHIPS.  
HARRIS, A.M., GRAHAM, S.,  
KENNEDY, K. & SLEIGH, M. J.*

Presented at the National Conference on Undergraduate Research, Asheville, NC, April, 2006

Anna M. Harris, 2007  
Shiquita Graham, 2007  
Kenyetta Kennedy, 2007

FACULTY MENTOR:  
Merry J. Sleigh, P.H.D.  
Department of Psychology

Previous research has demonstrated that childhood abuse can lead to negative outcomes during adulthood, including problems with trust and intimacy (Merrill, Guimond, Thomsen & Milner, 2003). These effects may depend on the gender of the victim (Little & Hamby, 1999; Merrill et al, 2003). The current study further explored these ideas by examining the effects of childhood abuse on young adults' current relationships. Participants were 82 young adults of Caucasian, African-American, and Hispanic ethnicity. Participants completed a 57-question survey comprised of a Psychological Aggression Scale (Bartholomew, Henderson, Kwong, & Trinke, 2003), a Trust Scale (Rempel, Holmes, & Zanna, 1985), and a Victimization Scale (Berkel, Blue, Furlong, & Hickman, 2005). The survey also provided additional questions about participants' demographic information and current romantic relationship status. Results revealed that the higher the overall past abuse, the lower the trust levels in current relationships,  $r = -.34$ ,  $p < .01$ . Similarly, the higher the prior levels of mental abuse, the lower the trust levels in current relationships,  $r = -.38$ ,  $p < .01$ . Results also revealed that women were more likely to have experienced abuse in the past than were men,  $t(80) = -.2.34$ ,  $p = .02$ . In contrast, levels of overall abuse and current trust levels did not differ between the two genders. The data also showed a significant difference between race and trust levels,  $F(2, 78) = 6.69$ ,  $p = .002$ . African American had lower levels of trust compared to Caucasians and Hispanics. There were no race differences in levels of any type of past abuse. These findings match previous research and suggest that abuse early in life can have long-term consequences. The current study also provides evidence that the effects of early abuse may be mediated by gender and that race may play a role in trust issues. A better understanding of these issues may be useful to young adults and those who work with them.

# *RELATIONSHIP BETWEEN TREATMENT OF FAMILY PETS VERSUS FAMILY MEMBERS. HUDSON, K. A.*

Presented at the Southeastern Psychological Association conference, Atlanta, GA, 2006  
and at the National Conference on Undergraduate Research, Asheville, NC, April, 2006

Kelly Hudson, 2007  
FACULTY MENTOR:  
Merry J. Sleight, PH.D.  
Department of Psychology

Most pet owners view their pets as family members, even though this belief is technically inaccurate (Albert & Bulcroft, 1988). Cohen (2002) found that pets often take on the role of human family members by providing comfort and companionship. The current study further examined pet owners' attitudes toward their pets. Thirty-five pet owners, with a mean age of 42 (SD = 13) were recruited from a veterinarian clinic. Participants had a mean of 11 (SD = 8) pets, and the majority reported that they spent over \$600 a year on pet care. Participants responded to a 32-question survey, indicating their level of agreement to statements regarding attitudes and behaviors toward pets and family members. A 'Preference for Animals' (PFA) score was calculated, having a possible range of 10 to 40; a higher number indicated a preference for pets over family members. The mean score was 30.40 (SD = 5.94). The higher the PFA score, the more normal the participants thought their love for their pet was [ $r = .39, p < .05$ ]. The more family members participants had, the less money they spent per year on their pets [ $r = -.48, p < .01$ ], and the less they considered their pets to be part of the family [ $r = -.40, p < .05$ ]. The more participants considered their pets to be part of the family, the more money they reported spending on them [ $r = .34, p < .05$ ]. The lower the income of the participant, the more money he spent on his pets [ $r = -.42, p < .05$ ]. Age did not relate to any of the variables examined; however, there were gender differences. Women were more likely than men to wish that their pet spoke to them [ $t(33) = 17.85, p < .05$ ] and to be interested in advocating for pets [ $t(33) = -30, p < .01$ ]. These findings suggest that people's perceptions of their pet might relate to their gender, income, family size, and financial output. Having a better understanding of pet owners' perceptions may be useful to pet owners and those who provide services for them.

*FACULTY PERCEPTIONS OF  
NONTRADITIONAL UNDERGRADUATE  
COLLEGE STUDENTS.  
MOSS, J. R. & SLEIGH, M. J.*

Presented at the Southeastern Psychological Association conference, Atlanta, GA, 2006  
and at the National Conference on Undergraduate Research, Asheville, NC, April, 2006

Joel R. Moss, 2007  
FACULTY MENTOR:  
Merry J. Sleigh, PH.D.  
Department of Psychology

The purpose of the current study was to assess how college faculty members perceive and adjust to the presence of nontraditional students in their classrooms. Forty-one college faculty members completed a 38 question survey. Nontraditional was defined as 30 years of age or older, and traditional was defined as under the age of 23. Survey items were grouped into three scales: a Preference for Older Students (POS) scale, an Increased Teaching Challenge (ITC) scale, and a Preference for Age Diversity (PAD) scale. The possible range for the POS scale was 8 to 40, with a higher score indicating a favorable perception of nontraditional students. The POS mean was 29.0 (SD = 4.02), with an alpha reliability of .84. The ITC scale had a possible range of 7 to 35, with a higher score indicating that faculty members perceived nontraditional students as increasing the difficulty of their teaching task. The ITC mean was 19.2 (SD = 3.3), with an alpha reliability of .77. The PAD scale had a possible range of 4 to 20, with a higher score indicating a greater preference for age diversity. The PAD mean was 15.9 (SD = 2.57), with an alpha reliability of .61. Results revealed that higher POS scores were associated with lower ITC scores [ $r = -.77, p < .01$ ] and higher PAD scores [ $r = .51, p < .01$ ]. The more time a professor desired to spend on research, the less the professor preferred teaching a wide age range [ $r = -.40, p < .05$ ] and the more likely the professor was to agree that older students are serious and boring [ $r = .38, p < .05$ ]. Women also were more likely than men to agree that age diversity was as important as racial diversity [ $t(39) = -2.22, p < .05$ ] and that non-traditional students should be actively recruited to the university [ $t(39) = -2.03, p < .05$ ]. The older the faculty members, the more they agreed that the university should actively recruit non-traditional students,  $r = .36, p < .05$ .

# YOUNG ADULTS' BELIEFS ABOUT PERSONALITY AND MORAL BEHAVIOR. WARD, M. E., MOREY, R. & SLEIGH, M. J.

Presented at the Southeastern Psychological Association conference, Atlanta, GA, 2006  
and at the National Conference on Undergraduate Research, Asheville, NC, April, 2006

Mary Ward, 2007  
Rebecca Morey, 2007  
FACULTY MENTOR:  
Merry J. Sleigh, PH.D.  
Department of Psychology

Previous research has demonstrated that many variables can influence the decision making process, including family cohesion and personality beliefs (Erdly & Dweck, 1993; White, Howie, & Perz, 2000). The purpose of the current study was to investigate the relationship between personality beliefs and sources of influence in moral judgments in young adults. Participants were 101 young adults, with a mean age of 20.35 (SD = 2.33). We used the 'Implicit Personality Theory Questionnaire' to assess participants' personality beliefs (Erdly & Dweck, 1993). A higher score indicated incremental beliefs and a lower score indicated entity beliefs. Incremental theory reflects a person's beliefs that personality changes depending on the situation, whereas entity theory reflects a person's beliefs that personality is unchanging. We also used the Moral Authority Scale-Revised (White, 1997). Participants were presented with six statements, related to current issues, such as punishment for crimes, need for racial harmony, respect for the environment, and freedom of speech. Participants were asked to rate five sources, indicating how influential those sources were on their thought processes as they responded to the statements (White, 1997). Five sources were assessed: 1) the influence of family, 2) the influence of educators, 3) a consideration for societal factors, 4) a desire for equality, and 5) selfish interests. Results revealed that the more a participant believed in entity theory, the more they relied on 'Family Source,'  $r = -.26, p < .05$ . This finding may reflect an increased sense of accountability to family by participants who believe in stable personality. We also compared men and women using an independent t-test. There was no gender difference in personality beliefs. However, women scored higher than men on Family Source,  $t(93) = -3.92, p < .01$ , Educator's Source  $t(94) = -2.74, p < .01$ , and Equality Source,  $t(94) = -2.99, p < .01$ . One possible explanation is that women are more influenced in general. Another possibility is that women base their decisions on relationship variables more so than men. A better understanding of the factors that influence moral decision making may be helpful to young adults and those who work with them.

# *YOUNG ADULTS' MOTIVATION FOR PHYSICAL ACTIVITY. WILLIAMS, E. A., PARKER, B. & SLEIGH, M. J.*

Presented at the Southeastern Psychological Association conference, Atlanta, GA, 2006

Presented at the National Conference on Undergraduate Research, Asheville, NC, April, 2006

Elizabeth A. Williams, 2007

Brandon Parker, 2006

FACULTY MENTOR:

Merry J. Sleigh, PH.D.

Department of Psychology

Although physical activity is an essential part of a healthy lifestyle, most Americans do not regularly engage in physical activity (Trujillo, Brougham, & Walsh, 2004). Berry and Howe (2004) found that factors such as health, appearance, weight loss, social support, mood change, stress reduction, competition, and recognition may encourage people to exercise. The relative influence of these factors may depend on age and gender (Savage, 1998; Trujillo, Brougham, & Walsh, 2004). The purpose of the current study was to examine young adults' motives for physical activity. Seventy-two young adults completed the Motives for Physical Activities Measure-Revised (Ryan, Frederick, Lepes, Rubio, & Sheldon, 1997). This 30-item questionnaire assessed the influence of five motives (i.e., interest/enjoyment, competence, appearance, fitness, social) for participating in physical activities, with a higher rating indicating that the motive was more influential. Forty-one percent of the participants were men, and 59% were women. The mean age was 21.25 (SD = 5.12). About half of the participants (57%) had participated on a high school sports team. Results revealed that men were more likely than women to report exercising for enjoyment,  $t(69) = 2.66$ ,  $p < .05$ , competency,  $t(69) = 3.24$ ,  $p < .01$ , and social,  $t(69) = 3.38$ ,  $p < .01$ , reasons. We also compared underclassmen (freshmen and sophomores) to upperclassmen (juniors, seniors, and graduates). Underclassmen were more likely to report being motivated for social reasons,  $t(67) = 2.29$ ,  $p < .05$ . Different patterns of current physical activity were related to the five motives. The more the participant exercised during a week, the higher the competence motivation [ $r = .39$ ,  $p < .01$ ] and the higher the fitness motivation [ $r = .31$ ,  $p < .01$ ]. People who participated in high school sports spent more time per week exercising than people who had not participated in sports in high school,  $t(68) = 2.14$ ,  $p < .05$ . These findings suggest that gender and educational status may help predict motives to exercise. In addition, our study revealed that current level of physical activity may be partially determined by exercise motivations and prior sports participation

*YOUNG ADULTS' PERCEPTIONS  
OF ROMANTIC RELATIONSHIPS  
WITH AGE DIFFERENCES.*

*SHIELDS, K. E. & SLEIGH, M. J.*

Presented at the Southeastern Psychological Association conference, Atlanta, GA, 2006  
and at the National Conference on Undergraduate Research, Asheville, NC, 2006

Kathleen Shields, 2006

FACULTY MENTOR:

Merry J. Sleigh, PH.D.

Department of Psychology

Previous research demonstrated that romantic relationships in which there was a large age difference between the partners were considered negatively, particularly when the woman was older (Banks & Arnold, 2001). The current study further examined this issue. Participants were 125 young adults, with a mean age of 22.01 (SD = 4.96). Participants completed one of two versions of a 32-question survey. One version (Man Older) presented three couples in which the female partner was 26 years old and the male partner was 26, 31, or 41 years old. The second version (Woman Older) presented the same information, except the man was 26 years old and the woman varied in age. After participants read a description of the couples, they were asked to select which couple best represented a relationship quality. Participants who received the Woman Older survey rated the couple with no age difference as happiest, whereas participants who received the Man Older survey rated the 5-year-age difference couple as happiest,  $X^2(2) = 15.06, p < .01$ . Similarly, the Man Older survey respondents were more likely to rate the 5-year-age-difference couple as most likely to stay married,  $X^2(2) = 6.82, p < .05$ . Woman Older survey respondents were more likely to rate the same-aged couple as most likely to have children,  $X^2(2) = 9.71, p < .01$ . They were also more likely to approve of the same-aged couple, whereas Man Older respondents equally approved of the same-aged and 5-year-age-difference couples,  $X^2(2) = 14.96, p < .01$ . Women were more likely to believe that the same-aged couple had the most in common,  $X^2(2) = 10.98, p < .01$ , and reported a higher age for an ideal partner,  $t(112) = -2.04, p < .05$ . African-Americans were more likely to believe that all couples were happy, whereas Caucasians favored the same-aged couple,  $X^2(2) = 10.16, p < .01$ . Both races rated the 15-year-age-difference couple as likely to have an affair; however, African-Americans' ratings were more evenly distributed across the couples,  $X^2(2) = 6.14, p < .05$ . These findings suggest that stereotypical views about age differences in romantic relationships exist among young adults.

## *THE STATE'S FUNCTION IN OTHELLO*

Presented at the 20th National Conference on Undergraduate  
Research, Asheville, NC, April, 2006

Christina Baswell, 2006

FACULTY MENTOR:

Matthew Fike, PH.D.

Department of English

In "Pageants for False Gaze: Jungian Perfectibility in Othello," Terrell Tebbetts claims that the Venetian Senate, because it represents various components of the psyche (the ego, the anima/animus, and the shadow), symbolizes the "individuated" psyche, in which both conscious and unconscious elements are integrated (93). My paper, however, argues that the Venetian State interferes with the process of individuation: Othello's service to the Venetian State actually hinders the assimilation of his personal unconscious—primarily his shadow and his anima—into the Self. The Venetian Senate encourages shadow projection rather than shadow integration when its members provide politically sanctioned foes onto whom soldiers like Othello may conveniently project their shadows. When Othello no longer has the opportunity to fight these "accepted" carriers of his shadow projection, he projects his shadow onto other, more unlikely candidates; he has become so accustomed to projecting that he cannot do otherwise. The State also makes it more difficult for Othello to assimilate his anima—the feminine unconscious—into the Self because Othello's long-time service to the State has limited his interactions with women, thus stunting the development of his own anima. Othello's projection of this stunted anima, in the form of the mother-imago, onto Desdemona is problematic because Desdemona does not fit the mother-imago. Furthermore, Othello's protracted service to Venice has caused him to confuse his persona as servant of the State with the Self, and this confusion forces his shadow and anima further into the unconscious. Contrary to Tebbetts's view of the Senate as a representation of the integrated Self, my paper concludes that three unconscious processes facilitated by the Venetian State—projection of the shadow, projection of the anima, and confusion of the persona with the Self—all eventually result in a division in Othello's psyche so marked that individuation is impossible.

## *THE SPLIT INFINITIVE*

Presented at the Sigma Tau Delta International Convention, March 29-April 1, 2006

Hallie Farmer, 2007

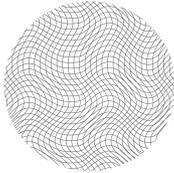
FACULTY MENTOR:

Marguerite Quintelli-Neary, PH.D.

Department of English

The English language is one of the most flexible languages spoken. As a result, many of the details of the English language, as well as the changes it has undergone over the centuries, consistently remain controversial issues. Some grammarians hold firmly to the traditional structure of the English language, while others are more willing to accept the adaptations of written language that inevitably come first in spoken and ultimately

in written language. The use of the split infinitive is a controversial issue that dates to the very beginning of the English language, and the issue remains controversial for present-day linguists. The majority of criticism leads to the conclusion that the split infinitive should not be corrected in writing. Teachers should not consider the split infinitive incorrect when analyzing student writing, nor should critics assault the appearance of the split infinitive in published writing. The flexibility of the language should allow the rule of the split infinitive to be applied only as needed while it should be disregarded when it becomes cumbersome and restricting. The split infinitive should be pointed out to writers and students in order to avoid the awkwardness it can cause, but it should not be treated as taboo.



## **OTHER STUDENT-FACULTY COLLABORATIONS**

### *A SURVEY OF VERTEBRATE WILDLIFE AT THE WINTROP UNIVERSITY RECREATION & RESEARCH COMPLEX IN ROCK HILL, SC*

Environmental Science Degree Final Project

Brian C. Boulware, 2006  
FACULTY MENTOR:  
Janice Chism, PH.D.  
Department of Biology

The Winthrop University Recreation and Research Complex is a mixed-use facility that serves several purposes including research area, athletic fields, public recreation, and wildlife habitat. For the purposes of this survey, the area was divided into three sections: the golf course, the woods area, and the lake area. This survey concentrated on the lake and woods areas and omitted the golf course, as it is the most disturbed by human activity and the least accessible of the three. This survey attempted to determine and compare the diversity of vertebrate species in the areas and the relative abundance of those species. The relative abundance was determined based on the percentage of times a species was observed, 0 to 25% was classified as rare, 25.1 to 50% was classified as uncommon, 50.1 to 75.0 was classified as common and 75.1 to 100% was classified as abundant. Between May 2005 and February 2006, 69 trips were made to the complex, 34 to the woods area, and 35 to the lake area. On each trip, the area was surveyed and the

vertebrates/ signs of vertebrates sighted were recorded. The survey of the woods area revealed 53 different species with three being abundant, seven common, six uncommon, and 37 being rare. The survey of the lake area found 55 different species with three being abundant, five common, nine uncommon, and 38 being rare. Statistical analysis revealed no significant difference in the number of vertebrate species present in the two areas.

## *OPTIMIZATION OF THE SELECTIVE REDUCTION OF $\alpha,\beta$ -EPOXYCARBONYLS WITH SILYL LITHIUM REAGENTS*

Sarah Wengryniuk, 2006

FACULTY MENTOR:

Aaron M. Hartel, PH.D.

Department of Chemistry,

Physics & Geology

Silyllithium reagents have been shown to reduce  $\alpha,\beta$ -epoxycarbonyls via attack at the carbonyl carbon. The resulting intermediate from this attack can then undergo a 1,2-Brook Rearrangement yielding silyl enol ether intermediates and ending in synthetically useful  $\alpha,\beta$ -hydroxycarbonyls. The use of  $\alpha,\beta$ -epoxycarbonyls has been suspected to promote the Brook Rearrangement due to the relief of ring strain from the resulting epoxide ring opening. Optimization of this new reaction was performed using 2,3-epoxy-1-phenyl-1-propanone as the substrate, which was prepared from the epoxidation of 1-phenyl-2-propen-1-ol with meta-chloroperoxybenzoic acid (mCPBA) to the corresponding  $\alpha,\beta$ -epoxyalcohol and subsequent oxidation with tetrapropylammonium perruthenate (TPAP) and N-morpholine oxide (NMO). Reactions of this substrate with various silyllithium reagents at different temperature were performed and monitored via  $^1\text{H-NMR}$ . Product ratios were determined by comparison to a hexamethylbenzene internal standard. It was observed that temperature had little impact on the reaction, however increasing the number of phenyl rings on the silyllithium reagent promoted the Brook Rearrangement giving higher yields of the  $\alpha,\beta$ -hydroxycarbonyl product.

*NEO-COLONIAL ASSIMILADOS:  
UNDERSTANDING NEO-IMPERIALISM  
AND STRUCTURAL ADJUSTMENT  
THROUGH A PRACTICAL EXAMINATION  
OF CONTEMPORARY MOZAMBIQUE*

Roger Lane Lovegrove, 2007

FACULTY MENTOR:

Jennifer Leigh Disney, PH.D.

Department of Political Science

This paper examines contemporary forms of economic neo-imperialism in Mozambique. The paper argues that the International Monetary Fund (IMF) and the World Bank use Structural Adjustment Policies (SAPs) to promote neo-imperialism/neo-colonialism by forcing Mozambique into a form of a modern economic assimilado system, where Mozambicans give up their autonomy and their sovereign identity for aid. This paper compares the analysis of the Structural Adjustment Participatory Review Initiatives (SARPI) to IMF and World Bank SAPs to demonstrate this.

*AN INVESTIGATION INTO THE  
AVAILABILITY OF ANTIRETROVIRAL  
PHARMACEUTICALS TO HIV/AIDS  
PATIENTS IN DEVELOPING COUNTRIES*

Alena James, 2007

FACULTY MENTOR:

Jennifer Leigh Disney, PH.D.

Department of Political Science

HIV/AIDS are diseases impacting the lives of over 40 million people world wide. With so many affected people, it is necessary that those infected by these diseases have access to effective medicines which will aid in the prolongation of life for these individuals. With an intent to convey the relationship between the pharmaceutical companies and individuals living in less developed countries, this paper focuses on discussing the challenges of the accessibility of antiretroviral drugs to less developed countries, the side effects individuals may receive from utilizing ineffective antiretroviral drugs, and the motives and objectives of pharmaceutical companies in selling their products.

*DO THE RACIAL COMPOSITION,  
MEDIAN INCOME, & EDUCATIONAL  
LEVEL OF BAMBERG, CHESTER,  
DENMARK, FORT MILL, & ROCK  
HILL INFLUENCE AMERICANS WITH  
DISABILITIES ACT COMPLIANCE IN  
PUBLIC LIBRARIES, POST OFFICES,  
CITY HALLS & RESTAURANTS?*

Prepared for PLSC 350-Scope and Methods, Political Science  
Department, Winthrop University, Fall 2005

Misty Bamberg, 2006  
FACULTY MENTOR:  
Karen M. Kedrowski, PH.D.  
Department of Political Science

There is limited information at best on the degree of compliance with the Americans with Disabilities Act (ADA) in public facilities. This paper examines public facilities in four communities in South Carolina: Bamberg, Chester, Denmark, Fort Mill and Rock Hill. Both private businesses (restaurants) and government buildings (city halls, post offices and public libraries) are evaluated in terms of their compliance with the ADA. The study analyzed compliance rates with respect to racial composition, median income, and educational level of each community. There is indeed a close positive correlation (0.96) between a high white population and ADA compliance, which in turn yielded a close negative correlation between a high minority population and ADA compliance (-0.96). High median income also had a positive correlation with high rates of ADA compliance (0.93). In addition, a negative correlation (-0.89) was found between the lower the number of persons to have only completed their high school education or below and high rates of ADA conformity. Population of a given city was related to ADA compliance, but the relationship was a weak one (0.35). There was also a higher rate of compliance among privately-owned facilities than in those operated by local, state, and/or federal government. Chester was the only city studied in which there was a higher rate of compliance among public buildings.

# *THE MEASUREMENT OF SOCIAL CAPITAL IN SOCIETY*

Prepared for PLSC 350, Scope and Methods of Political Science, Fall 2005

Clarence Frazier, 2007  
FACULTY MENTOR:  
Karen M. Kedrowski, PH.D.  
Department of Political Science

Social capital is the value that individuals accrue from joining civic and community organizations. Higher levels of social capital are associated with greater trust in government and political efficacy. Current studies indicate that these forms of community activism are declining in the United States. I conducted a study of residents of Rock Hill, South Carolina, to discern patterns in social capital. This project asked three questions: 1) Does education have a direct impact on social capital? 2) Does gender have an impact on social capital? And 3) Does race predict differences in degree of social capital? I distributed 30 surveys to individuals who represented the demographics of the city of Rock Hill ([www.ci.rockhill.us](http://www.ci.rockhill.us)). This survey asked several questions about community involvement and trust in government. This study found that African-Americans seemed to have a less social capital than Caucasians and this was attributed to the lower socioeconomic status of African-Americans. There was no significant difference in the social capital between men and women, which represents a progression in women's rights since women historically were less involved in civic affairs. Lastly, I discovered that people with more education had a higher level of social capital because they usually have better jobs and resources that allowed them more time to participate. These findings show that there is a major gap between the majorities and minorities in specific areas. The recognition that this is a problem is a crucial step that America needs to take. By realizing the gap in social capital, it will start us on the process of building better trust and more involvement in our community.

# *RESTORATION & EXPANSION OF HYMENOCALLIS CORONARIA IN THE CATAWBA RIVER BASIN*

Prepared for BIOL 471, Research in Biology, will be presented to the Biology Department in the Fall of 2006

Andrew Lazenby, 2006  
FACULTY MENTOR:  
John Schmidt, PH.D.  
Department of Biology

The range of the Rocky Shoal Spider Lily (*Hymenocallis coronaria*) is currently restricted to a few populations in South Carolina, Georgia and Alabama. This research focuses on methods to restore this species to its former range in the Catawba River basin and thus insure its long-term

survival. The lily, a large-flowered perennial arising from a bulb, requires shallow swift flowing water on exposed bedrock. The seeds sink and become wedged in the rocks. One problem addressed is how to anchor the seedlings until they become established into the natural substrate. Testing at field sites located at Green Earth on the Catawba Indian nation has examined the feasibility of three biodegradable substrate types. Preliminary surveys of field sites have demonstrated high survivability. The largest population in South Carolina is found in a short stretch of the Catawba River at Landsford Canal State Park. This population serves as a bird sanctuary and provides habitat for several rare species of fish. Unfortunately, the Catawba River is highly eutrophic and the effects of common pollutants such as nitrogen and phosphate will also be studied in order to better understand the conditions necessary for the long-term preservation of this species.

## *SOUTH PARK SATIRE*

Paper prepared for PLSC 314, "Media and Politics," Spring 2005

Chad Quirin, 2007  
FACULTY MENTOR:  
Karen M. Kedrowski, PH.D.  
Department of Political Science

All generations can understand satire—a ridicule of any subject matter for the purpose of scorn, enlightenment, and amusement. Satire is at the roots of social commentary and has always been. This art form is prevailing in the Comedy Central show South Park. By analyzing many episodes of this popular television series, this paper demonstrates that the show is a satire and reflects a just concern on the social and governmental issues. Satire can be scornful and amusing, but it would at this point seem nothing more than entertainment. It must have a powerful punch around to threaten the very items it pressures through satire. This raises a basic issue in politics; when dealing with a type of media, how deep does it reach into the powerful pockets of persuasion? It is important, and given reason that South Park is satire and it can, at the very least, impact the political landscape, even if it is just a small stone dropped into an oceanic lake.

## *A SOCIAL HISTORY OF BREASTFEEDING*

Research Conducted for academic credit in PLSC 503, Academic  
Research in Political Science, Spring 2006

Jamie Rose, 2006  
FACULTY MENTOR:  
Karen M. Kedrowski, PH.D.  
Department of Political Science

I contributed to a social history of breastfeeding in the United States using primary and secondary sources, which will be integrated into a book manuscript entitled Breastfeeding Rights in the United States. My contribution included critically evaluating numerous secondary sources in terms of their relevance to the larger book project.

*SCHOOL BOARD ELECTIONS,  
DESEGREGATION, & BLACK POLITICAL  
REPRESENTATION: A STUDY OF  
SOUTH CAROLINA SCHOOL BOARDS*

Manning B. Shaw III, 2006

Lane Lovegrove, 2006

FACULTY MENTOR:

Karen M. Kedrowski, PH.D.

Stephen S. Smith, PH.D.

Department of Political Science

This research continues earlier work on the legacies of two pivotal struggles of the civil rights era: voting rights and school desegregation. It does so by investigating the relationships among the format of school board elections in South Carolina, African Americans' success in these elections (descriptive representation), and school districts' levels of segregation (substantive representation). Our goal is to investigate whether findings from earlier case studies can be generalized. In these case studies, two districts changed from a system in which all board members were elected at large to one in which a majority were elected from single-member districts (SMDs). The change increased the percentage of black board members and, more importantly, facilitated the districts' pursuit of desegregation. Based on these case studies, we hypothesized that a cross-sectional analysis of South Carolina school districts would show greater black descriptive and substantive representation in those districts in which a majority of board members are elected from SMDs. In a preliminary report presented last year at this time that drew upon data from the 2003-04 school year, we found no support for the hypothesis about descriptive representation and considerable evidence against the hypothesis about substantive representation. Since then, we have expanded our analysis in several ways: first, we have obtained additional data for the 2003-04 school year and refined our analysis of it. These new analyses provide support for our hypothesis about descriptive representation, but they continue to provide evidence against our hypothesis about substantive representation. We have also collected data for additional school years to conduct longitudinal analyses, and we have begun a series of case studies. Still in its early stages, the analysis of the longitudinal data and case studies presents a more complex picture about substantive representation than the cross-sectional analysis did. It remains to be seen whether support for the hypothesis will emerge from this complex picture and, if so, why such results differ from the cross-sectional analysis.

## *“IS THIS A DOCTOR’S OFFICE?”: BUISNESS ELEMENTS IN THE WRITING CENTER*

Leanna Trimper, 2006

FACULTY MENTOR:

Jane B. Smith, PH.D.

Department of English

Sitting in the Winthrop Writing Center, I observed a fellow tutor shaking hands with his student/client. That led to my realization that our Center at Winthrop often operates like a business. Our Center’s set up includes a reception area and the tutoring room; the procedures for checking in for a tutorial, the personality and attitudes of the receptionists and then the tutors during the session—even the signs that forbid the use of cell phones and ask students to wait to be helped—suggest a business-like atmosphere. Our mission states that tutors are supposed to be peers engaging in collaborative learning with students and that students and tutors work together on any aspect of the writing process. Does this professional, business-like atmosphere impact students’ perceptions of what happens in the tutorial? Surveys and interviews of both the tutors who work in the Center and student/clients, as well as the director and other administrators, will explore people’s perceptions of the Center’s identity. Centers need to be responsive to their unique university environment; however, the tutors and the director need to be aware of their Center’s identity by constantly monitoring it to be sure it continues to fulfill its mission.



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